A Clinical Lecture

ON THE

TREATMENT OF INJURIES OF THE HEART.

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SURGEONS have known for centuries that penetrating wounds of the heart are not always fatal, even when the injury is inflicted by an instrument so gross as a rapier. Death is occasionally deferred many minutes or even hours. The famous surgeon Ambroise Paré, who, about 1552, discovered the use of the ligature instead of a red-hot iron to arrest bleeding after amputation of a limb, has placed on record an observation relative to a gentleman wounded in the heart during a duel. The injured man pursued his adversary 600 feet before he fell. Examples of this sort have multiplied since Paré's time, and we now know that the heart is very tolerant of traumatic insults. A remarkable case illustrating the tolerance of the heart to severe injury was recorded in 1834 by Thomas Davis. A boy made himself a gun out of the handle of a telescope toasting-fork. To form the breech of the gun he had driven a plug of wood three inches into the handle of the fork, and made a touch-hole in the hollow part of the handle. When the gunpowder exploded it forced out the stick, which formed the artificial breech, into the boy's chest, between the third and fourth costal cartilages, half an inch to the right side of the sternum. Immediately after the accident the boy walked a distance of 40 yards to his home. He lived five weeks and two days after the accident. At the *post-mortem* examination a piece of wood 3 inches long and as thick as a cedar pencil was found in the right ventricle, encrusted with a coagulum as large as a walnut.

To come nearer our own times. In 1896, Mr. W. G. Spencer showed to the Clinical Society the heart of a man aged 28, who had been stabbed in the right ventricle seventy-nine days previously. The wound had been treated by plugging in order to arrest the bleeding. This man died from causes unconnected with the injury. At the *post-mortem* examination the wounds in the chest wall, the pericardium, and the heart were found firmly healed.

Six months before Spencer's case was communicated to the Clinical Society, a new method had been born for the treatment of stab wounds of the heart. In March, 1896, Farina, an Italian surgeon, had the courage to apply to a heart that had been stabbed the simplest and greatest canon of surgery concerning accidental haemorrhage, namely, arrest bleeding at the earliest possible moment. He did it by a recognized method for stopping bleeding in vascular muscular organs, by bringing the divided surfaces into strict and firm apposition by means of sutures.

Although Farina's epoch-making case is frequently referred to in statistical tables relating to the surgical treatment of stab wounds and gunshot injuries of the heart, except for a brief reference made by Durante to the International Congress of Surgery held in Rome, 1896, the details have never been fully published. In reply to a letter, Dr. Guido Farina sent me the following facts in December, 1909:

> The first case of surgical interference on the heart which I had the opportunity of performing was carried out in March, 1896, at the Spedale della Consolazione.
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> The patient was a man 30 years of age who received a blow from a very fine and sharp dagger, in the fifth intercostal space in the parasternal line. The wound penetrated to the cavity in an oblique direction from above downwards and from without inwards. It wounded the pericardium and penetrated into the right ventricle. The wound in the myocardium was about 7 mm. long.
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> I removed part of the fifth costal, or rather I detached the cartilage of the fifth rib from the sternum and removed cartilage and rib for about 15 cm. Then I strongly retracted the fourth and sixth costal cartilages and retracting the pericardium, I arrived on the wounded heart. I sutured the wound with three silk sutures, and between these three particular points I placed two others of less importance. Everything went excellently until the fifth day, when a violent bronchopneumonia declared itself on the right side, and in three days killed the patient. The thoracic wound healed by first intention.
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> At the autopsy the wound in the heart was found perfectly healed. I begged our judicial authorities to let me have the heart for further study of the process of healing, but met with an energetic refusal. It was precisely because of my irritation at this fact that I have not published any communication on this interesting case.

Dr. Farina's letter was written in Italian, but my friend Dr. StClair Thomson kindly furnished me with the translation. Farina's method of treating punctured wounds of the heart was soon followed by other surgeons. The first complete success fell to Rehn (Frankfurt-on-Maine). In 1897 in a case of stab wound of the heart he opened up the intercostal space and resected the fifth rib. The right ventricle was wounded and this he sutured with success. The good consequences which have followed the surgical treatment of stabs and gunshot wounds of the heart have been very great during the past ten years. In 1909 Dr. G. T. Vaughan (Washington) was able to collect from the periodical medical literature of America (North and South), Germany, France, Spain, Italy, Canada, and England, 150 cases, including two cases (one of which was successful) under his own care. The evidence that he has collected, as well as the careful and skilful way he has analysed the reports and the facts, make it clear that primary suture of wounds of the heart is an established surgical measure for treating such serious injuries.

My interest in injuries of the heart was awakened very early in my career as a surgeon by an extraordinary assault which a drunken man made on his own heart. In 1887 some men were drinking in a beershop; one of them, a lad aged 20, was playing with a loaded revolver, and a companion made a bet with him that he was afraid to shoot himself in the heart. Astonishing as it may seem, the drunken boy fired the revolver into his chest, and was brought into the hospital in a collapsed state. When his clothes were removed, gastric contents were found between his skin and shirt, which clearly pointed to a wound of the stomach. The abdomen was opened, and a large hole in the stomach was closed with sutures; the food and beer were washed out of the general peritoneal cavity. The boy recovered consciousness after the operation, but had no recollection of his foolish wager and act. However, it cost him his life, for he died some hours later. At the *post-mortem* examination it was found that the bullet had entered the pericardium, ploughed a deep groove in the apex of the heart, torn away a piece of the diaphragm, and perforated the stomach. The fatal consequence was not due to the cardiac lesion.

This leads to the question, What causes death in fatal wounds of the heart? Death after injury to the heart may be primary or secondary.

PRIMARY CAUSES.

Death after a severe injury to the heart may be as sudden as when the heart stops beating from what is called "natural causes." Gunshot wounds in which a bullet traverses the heart are very fatal; it is stated that they are usually fatal within the hour. They may be instantly fatal. I once saw a man who five minutes before fired a revolver bullet into his heart. He was being arrested for embezzlement, and asked permission to get his hat and coat. He then snatched open his waistcoat, took a revolver from his pocket, shot himself exactly in the left fifth intercostal space as if he had previously measured it out, fell upon the floor, and died in a few seconds. In such cases the heart passes into a condition of shock, and ceases to beat; death takes place too rapidly for the fatal event to be attributed to loss of blood.

In these suddenly lethal injuries there is very little blood extravasated into the pericardial or thoracic cavities. The only reasonable way of accounting for such rapid death when the heart receives a severe injury is to believe that its nervous mechanism is paralysed. This is a bald statement, but no other explanation is available. It is recognized that any mechanical stimulation of short duration causes temporary arrest of the heart's action and systolic contraction.

A very common cause of rapid death from penetrating wounds of the heart is bleeding, and the fatal event in

these circumstances may be delayed for some hours. In investigating the manner in which death is brought about, we must realize that it is not always due to what may conveniently be called traumatic anaemia, but by compression, for the heart being completely enclosed in its bag or pericardium, the blood as it issues from the wound in the heart fills the pericardial sac, and this effused blood may, and occasionally does, exert such pressure on the big vessels issuing from the base of the heart, and so strangulates them, that the organ becomes literally suffocated, or drowned in its own blood. The rapidity with which death comes depends on the size of the wound in the heart. Until I realized this I often wondered why playwrights put long speeches into the mouths of players when they were mortally wounded by heart-thrusts. There is justification for the speech made by Mercutio after Tybalt ran his rapier into the chest of this quick-witted creation of Shakespeare:

"What, art thou hurt?" says Benvolio. To this Mercutio replies:

"Ay, ay, a scratch, a scratch; marry it is enough."

To Romeo's suggestion that the hurt cannot be much, Mercutio replies:

"No; 'tis not so deep as a well, nor so wide as a church door; but 'tis enough, 'twill serve: ask for me to-morrow, and you shall find me a grave man." (*Romeo and Juliet*, Act III, Scene 1.)

When the weapon with which the wound is inflicted is of a coarse kind, and the pericardium is damaged and unable to retain the escaping blood, death quickly comes. As an example of such an injury reference may be made to the way in which Abner killed Asahel:

> With the hinder part of his spear he smote him under the fifth rib, and the spear came out behind him; and he fell down there, and died in the same place. (2 Sam. ii, 23.)

For a similar case see also Joab's treacherous murder of Amasa (2 Sam. xx, 10).

Wounds of the auricles are, as a rule, more rapidly fatal than wounds of the ventricles. This is capable of explanation. We know from observations on such a vascular and muscular organ as the pregnant uterus that its walls may be rudely divided by the horn of an ox, or skilfully split by the surgeon for many inches with a scalpel, yet the contraction of the muscular fibre of the uterus is so quick and powerful that the bleeding stops and very little blood is lost. In grave penetrating injuries of the uterus by bullets, knives, or the blunt instruments of the gynaecologist, and the clumsy tools of the criminal abortionist, death from bleeding is almost unknown. Similar conditions happen in the heart. It is a fact derived from common observation that punctured wounds of the heart by a needle, hatpin, or a stiletto are rarely fatal from bleeding. Moreover, in cases of stab wounds of the ventricles, when the chest wall has been opened up and the pulsating heart exposed to view, the blood may sometimes be seen spurting out of the wound in the ventricular wall during the contracting stage. In some conditions when the heart is thus exposed the surgeon finds free blood in the pericardial cavity, but cannot find the puncture; he then gently compresses the big vessels at the base of the heart and causes the cardiac cavities to become over-full, then the blood spurts through the hole in the heart's wall and reveals the position of the puncture.

It is true that large wounds of the heart cause death and small wounds may heal; few surgeons realize how tolerant the heart is of gross injuries. Bullets have been removed from its walls four months after their lodgement. There is also the remarkable case reported by Schloffer in which a youth aged 18 shot himself in the heart with a 7 mm. revolver. There was much shock for some hours. Next day the patient complained of pain in the right arm, and the limb presented signs of "ischemic paralysis"; the bullet was detected in the axilla. Two months and a half later the bullet was excised. The artery above and below the bullet was thrombosed. Schloffer offers as a satisfactory explanation of these facts that the bullet penetrated the chest, the wall of the left ventricle, and lodged in the cavity of that ventricle; thence it was projected as an embolus through the aorta, the innominate and the subclavian artery, to be arrested at the beginning of the axillary artery. The difficulties with the arm slowly disappeared, and later signs of narrowing and insufficiency of the mitral valve declared themselves.

The heart may be traversed by a bullet and the patient recover. Connor recorded a case in which a boy, aged 15, was wounded in the cardiac region by a pistol bullet; he remained ill for some days, but was able to get about again, though he remained weak and anaemic. He died three years after the injury. It was found, on examining the heart after death, that the bullet had traversed the right ventricle, and opened the left ventricle and the right auricle; it was found at the root of the lower lobe of the right lung.

Diagnosis.

When a patient comes under observation after a severe injury to the chest caused by a fall, or from being run over, kicked by a horse, gored by an ox, transfixed by the pole of a van or a carriage, shot accidentally by a friend, designedly by an adversary, or intentionally by himself; stabbed in a fit of jealousy, or in a civil broil, or in revenge, and in one or other of the one thousand and one ways in which such injuries are produced, it remains for the surgeon to decide whether the heart is injured, and if the heart has received serious injury; the surgeon must also endeavour to determine whether the injury concerns this organ alone, implicates other important structures, such, for example, as the lung, pleura, diaphragm, colon, stomach, or liver.

In surgical books the rules laid down for our guidance are clear, but it often requires some acumen as well as experience to ascertain the nature of the injury and its extent. Injured patients do not come under our observation with their injuries labelled; were this so our work would be simplified. It is easy to act when we know the conditions which require the action.

The heart when full of blood and discharging its functions, occupies a considerable space in the left half of the thoracic cavity. Under normal conditions a small portion passes across the middle line to the right side of the thoracic cavity and this portion is a part of the right auricle (in cases of transposition of viscera these relations are reversed). The left auricle lies in relation with the bodies of the thoracic vertebrae from the fourth to the eighth. The bulk of the right ventricle and part of the right auricle lie on the diaphragm, separated of course from this muscle by the pericardium. Although a large area of the pericardium is in relation with the anterior wall of the left half of the chest the greater part of this area has the anterior thin edge of the lung, and the pleura associated with it, lying between the pericardium and the chest wall. The area of the pericardium in actual contact with the chest wall is very small. These relations are important, because it is in a very small proportion of cases that the pericardium and heart are injured in punctured wounds of the chest unassociated with wounds of lung or pleura, and in a fair proportion of instances the peritoneum also, for the heart may be wounded by thrusts, malicious as well as accidental, from the back, as well as from the side, and from below as well as in the commonest of all directions from the front.

It is a fact that there is no unequivocal sign of injury to the heart. When a man or woman is seen with a knife, a long needle, or a dagger sticking in the cardiac region of the chest and the victim is living, the handle of the knife, dagger, or projecting portion of the needle moves synchronously with the beating of the heart.

The following extract from the *Iliad*, Book IV, is considered to indicate that Homer was aquainted with this sign of injury to the heart:

> His lance bold Thoas at the conqueror sent,
> Deep in his breast above the pap it went,
> Amid the lungs was fixed the wingèd wood,
> And quivering in his heaving bosom stood.

All surgeons who read the *Iliad* of Homer carefully will agree with Buckley's remark that "Homer is most anatomically correct as to the parts of the body in which a wound would be immediately mortal." Modern playwrights would not waste their time if they read some anatomy and surgery.

The heart may be wounded with a bullet, or a sharp instrument, and bleed profusely into the pericardial sac, and no blood escapes externally. A patient in this condition always exhibits symptoms the gravity of which are out of all proportion to the size of the external wound.

Then signs indicative of profuse internal haemorrhage (or traumatic anaemia) arise, such as shock, pallor, rapid pulse, cold sweats, sighing respiration, subnormal temperature and restlessness. If measures are not promptly taken to stay the bleeding, death is not long delayed. When the bleeding takes place into the pericardial cavity and the blood is retained in this bag, producing compression of the vessels, the clinical signs are often characteristic. The patient becomes blue (cyanosed) and breathes with difficulty (dyspnoea); there is an increase in the area of the cardiac dullness, and the sounds of the heart are muffled. The diagnosis of haemopericardium in the presence of such signs is not difficult to make. The amount of blood which the pericardium will hold is astonishing. A man, aged 23 years, received an injury to his heart whilst playing at football. Eventually Mr. C. Mansell-Moullin removed through an incision in the fifth intercostal space and drained away 6 pints of blood.

When the pleura and lung, as well as the heart, are injured, curious sounds may be heard on auscultation—splashing, whistling, gurgling, and similar weird noises.

When a cardiac injury is complicated with a wound of the pleura, air will rush in and out of the thorax with the respiratory movements and cause the blood to appear frothy as it issues through the external wound. It is estimated that in 80 per cent. of the wounds of the heart the pleura is injured likewise, and the importance of this is very great, for pleuro-pericardial infections are the common causes of death after operations performed for injury to the heart.

TREATMENT.

Previous to 1896 it was the custom to teach that in the majority of cases injuries of the heart do not admit of any treatment, and this is in a measure true to-day. In a well-known and widely used textbook published in 1896 it is stated that "suture of wounds of the heart has been proposed." In discussing the treatment of haemopericardium following injury the same writer adds: "Operation affords only the slenderest, if indeed any, prospect of good."

Severe injuries to the heart are still as fatal as formerly because life is destroyed so quickly that surgery has no chance; punctured wounds of the heart leading to haemopericardium are submitted to surgical treatment with fair prospect of success, and if there be no concurrent wound of the pleura the chances of success are great. The method of saving life in such circumstances may be definitely formulated; it consists in exposing the pericardium by fashioning an osteoplastic flap from the chest wall and turning it to one side so as to expose the pericardium; then, in opening this membrane and exposing the heart, finding the wound, and closing it by means of sutures.

Anaesthesia.

The question of administration of an anaesthetic in operations for exposing an injured heart for the purpose of applying sutures to the wound cannot be determined by rules; it must be left to the judgement of the surgeon. In some cases the patient has been so collapsed that an anaesthetic would have probably ended fatally. In such cases the patient, being in a state of collapse, would probably be insensible to painful sensations. In others the excitement would be so extreme as to render the administration of chloroform highly desirable. These remarks only apply to cases of primary suture. In operations for suturing a wound which has been inflicted some hours previously, as for extracting foreign bodies from its walls which have been embedded many days, or even weeks, the induction of unconsciousness by ether or chloroform is as necessary and as advantageous as in any of the common operations of surgery.

Operation.

The manner of conducting surgical operations for punctured wounds of the heart requires careful consideration. Sepsis is the common cause of failure. This is in part due to the difficulty of preparing the patient for the operation with the same thoroughness as in cases less urgent, but chiefly to the fact that the injury is inflicted with a dirty (septic) instrument or weapon, and if the pleura be injured, as is so commonly the case, air and germs have free access to the parts.

Although the method usually employed for exposing the heart consists in fashioning an osteoplastic flap from the chest wall immediately over the anterior surface of the heart, it admits of three modifications:

(*a*) The skin is incised at the left side of the sternum at the level of the third intercostal space, and carried out as far as the nipple line; a second incision is made parallel with this along the fifth intercostal space, and the ends of these incisions are joined by a cut parallel with the left border of the sternum. The costal cartilages are divided, and the flap thus formed is turned outwards; the pleura is stripped off if possible, and the ribs are divided or broken just beyond the costo-chondral junctions. The flap reflected in this way consists of skin, costal cartilages, intercostal muscles, and a section of the internal mammary vessels.

(*b*) This method may be reversed. The parallel incisions along the intercostal spaces are united by a vertical incision near the nipple line; the ribs are divided beyond their costo-chondral junctions, and the osteoplastic flap is turned towards the sternum. In both methods the pleural cavity is almost certain to be opened.

(*c*) In order to avoid opening the pleura and at the same time to make a good exposure of the heart, the vertical incision should be made on the right side of the sternum from the third to the fifth intercostal spaces, and the parallel incision should cross the sternum and extend outwards as far as the left costo-chondral junctions. The piece of the sternum thus involved and the costal cartilages of the fourth and fifth ribs of the right side are divided, and the osteoplastic flap thus formed is turned to the left side, the costal cartilages forming a hinge.

Whichever method be adopted, the surgeon can vary it to meet the needs of the cases. After reflecting the flap and arresting bleeding from vessels divided in the chest wall, access to the pericardial cavity is obtained by enlarging the wound already existing in the pericardium. The blood effused into it is carefully removed; in some cases it is large in quantity. It is preferable to remove the blood by sterilized dabs than to wash it out. The surgeon then seeks for the wound in the heart. In cases where the foreign body which inflicted the injury remains *in situ* the wound is readily found. In some fortunate instances the cavities of the heart are not penetrated and the blood oozes from the lacerated tissues of the heart, or from a large branch of, or from a coronary artery. When the bleeding is from an artery, the injured vessel should be ligatured with thin sterilized silk. It has happened that the blood in the pericardial chamber has been furnished by an injury to the internal mammary artery.

When the surgeon exposes the heart the wound in the auricular or the ventricular wall is usually seen at once, the blood issuing intermittently. Sometimes the wound is not so obvious; then by gently compressing the vessels at the root of the heart the cavities fill, and the leaking spot is seen. The wound may be large and blood gush out freely; this may be checked by gently compressing the walls on each side of the wound, or even introducing the finger as a plug.

When the surgeon finds the wound, and clears away the blood, he then closes the opening in the heart with sutures. The material used for this purpose is either thin sterilized silk or catgut. Of these silk is preferable, and it is most conveniently introduced with a curved needle. The number required varies with the size of the wound, and it is useful, if the wound requires a series of sutures, after introducing the first one, to use it as a retaining suture in order to steady the heart, and thus facilitate the process of suturing. It is preferable to use interrupted sutures; they should be passed in such a manner as to avoid the thread projecting into the cavity of the heart; such a thread might lead to the formation of a thrombus and a consequent embolus. It can be imagined that it is not always an easy matter to pass sutures successfully through the wall of the living heart, especially if it be beating tumultuously, as is sometimes the case during the progress of such operations. In tying the sutures care should be taken not to pull them too hard, or the tissues of the heart will tear. The number of sutures required to close a hole in the heart wall varies greatly. When the wound is effectively sewn up the surgeon should examine the posterior surface of the heart, for in stab wounds the

organ is sometimes completely transfixed. Success has followed operative treatment of such a severe injury.

It has also happened that bullets have traversed the heart completely and the aperture of entry and that of exit has been closed with sutures and the patient's life saved. In one remarkable instance a revolver bullet (5 mm.) entered the right ventricle and the aperture of entry was closed with sutures; on careful palpation the bullet was detected in the posterior wall of the left ventricle and removed with success (von Manteuffel). In this case the surgeon states that when the opening in the right ventricle was exposed a blood fountain ½ metre high gushed out with each systole of the heart.

A remarkable case was reported in 1908 by Guinard. A garçon de café, aged 26, was shot in the chest and abdomen; one bullet entered the ninth intercostal space, 4 in. to the left of the spinous process. The abdomen was opened and nothing found. Four months later the man returned complaining of dyspnoea, cough, and inflammatory oedema of the chest wall below and to the outside of the nipple line. The *x* rays revealed the bullet an inch or so behind the ribs. The sixth rib was resected and the pericardium opened. The bullet (7 mm.), surrounded by a piece of the man's shirt, was extracted with forceps. He recovered in spite of an extensive pleural effusion. A piece of the man's coat had also been carried in with the bullet; it lay under the chest wall. When Guinard communicated his case to the Surgical Society of Paris the boy was in the hospital with a fistula. In reply to a letter (1910) Mons. A. Guinard kindly informed me that he had heard nothing more of the boy, so he came to the conclusion that he had remained well.

Some of the injuries to the heart are remarkable. Schubert reports a case in which a ball passed through the heart, and he succeeded in closing the opening of "entrance and exit"; the man recovered. Schubert is of opinion that the bullet traversed the intraventricular septum.

It has happened that a man sustains a serious damage to his chest, and the surgeon in charge suspects an injury to the heart; on opening the pericardium he finds the heart uninjured. In all cases of cardiac wounds which are treated by operative methods it is important that the surgeon should in the course of the operation examine the lung and pleura in order to ascertain their freedom, or otherwise, from injury. If the pleural cavity contain blood it must be removed carefully, and the hole in the pleura should be closed with sutures of fine silk. Blood, sometimes in large quantity, has been poured out from a wounded heart into the pleura; this has been removed in the course of the operation, and the pleura closed without drainage.

This is an important detail. Many surgeons, in reporting cases of cardiac suture in the last two years, insist on the avoidance of drainage, believing that some of the patients who have survived the immediate shock of the initial injury and the operation have died from septic sequelae. Some of these septic complications probably arose from secondary infection through the drainage tube.

It is stated that wounds of the auricles are more fatal than those of the ventricles. In Vaughan's list of 150 cases an auricle was wounded in 8. These numbers are too small to make any comparison of the relative danger of wounds of the auricles and ventricles reliable, but it raises suspicions of another kind, namely, the probability that wounds of the auricles are, as a rule, so quickly fatal that the patients with such injuries die before there is time to place them in the hands of a surgeon.

This is a matter of great importance; I have tried, but without results, to obtain facts in regard to the localization of fatal wounds of the heart which would enable a definite answer to be given to this question. In future it would serve a very useful purpose if those who had the opportunity of conducting *post-mortem* examinations upon men and women who lose their lives from wounds of the heart to accurately note the region of the organ which is injured. A score of such observations would be very valuable.

At the present time the mortality of the operation known as "suture of the heart" is about 65 per cent., according to Vaughan. He also shows in his excellent paper that the mortality of this operation has not diminished during the last twelve years. The secondary causes of death in the majority of cases are pericarditis, pleurisy, pneumonia, and bronchopneumonia; some of these complications are due to the use of drain tubes.

In spite of the high mortality it is a matter for congratulation that surgery can save 35 per cent. of the patients suffering from a wound which untreated is usually mortal.

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Remarks

ON A

CASE OF PROBABLE OVARIAN PREGNANCY.

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THE literature of ovarian pregnancy increases rapidly, and each year adds its quota to the store of recorded cases. The last few years particularly have been lucrative in this respect. In 1908 Teacher and Bryce[1] published their well-known monograph on the early changes associated with normal uterine pregnancy, including a very valuable report on a specimen of early ovarian gestation. In August, 1909, appeared Norris's paper[2] on ovarian pregnancy, with the detailed account of a case and summary of previously recorded literature. Hastings Tweedy[3] has recently described a specimen of this condition occurring in Ireland, and the current year has seen also the publication by Prince[4] of a case of full-term gestation in this abnormal position. In spite of this mass of accumulating literature, however, little is known of the processes taking place in an ovary the seat of such an occurrence. The etiology and early pathology of the condition is still largely speculative, and the true facts can be reached only by the comparison of authentic records and the very careful investigation of every specimen that falls to the lot of the individual worker.

The case I now publish is wanting in some details, but it raises several points which may have an important bearing upon the work of others.

History.

The patient, E. J. B., 25 years of age, had been married for five and a half years. She had had two previous confinements, dated June 6th, 1905, and March 16th, 1908, respectively. The first pregnancy and labour were normal in every particular, but the second was noteworthy from the fact that menstruation was regular during the first three months. The catamenia were absent for three months following the second confinement, but recurred on June 16th, 1908. The function was regularly repeated till December 19th, the last period terminating on December 25th. Coitus occurred on two occasions during December, namely, the 12th and 26th. At 1 p.m. on December 31st, 1908, after pushing a heavy wringing machine, the patient was seized suddenly with acute abdominal pain, localized in the right iliac fossa. It was unrelieved by rest and fomentations. Vomiting occurred twice, but although faintness was present, she did not lose consciousness. The pain remained constant till 1 a.m. on January 1st, 1909. It then passed off, but recurred on the following day, when she rapidly became worse, and was admitted to the General Hospital, Birmingham, at 3.30 p.m.

On admission her condition suggested acute appendicitis. The abdomen was exquisitely tender, especially in the right iliac fossa. The abdominal muscles were rigid, and the percussion note over the above-named area was dull. The pulse-rate measured 132 at the radial artery, and the temperature registered 100.4° F.

Operation.

The abdomen was explored during the same evening by Mr. Lucas and the peritoneal cavity found full of blood-clot. Ruptured extrauterine gestation was diagnosed, and the source of the haemorrhage traced to the right ovary, from which protruded a small mass of clot. Both Fallopian tubes and the left ovary were quite normal. The uterus was not enlarged. Right salpingo-oöphorectomy was performed, the patient making an uneventful recovery.

Description of Specimen.

The specimen was handed to me for investigation on the morning of January 4th, 1909, when the following notes were made:

"The specimen consists of the right ovary and Fallopian tube, with the corresponding meso-salpinx and mesovarium. It is free from all adhesions, and there is no evidence of any inflammation, acute or chronic. The ovary forms an elongated oval body, 5.4 cm. in length by 4 cm. in breadth. It is divided roughly into two equal portions. The upper or tubal half is somewhat quadrilateral and attached to the tube by the fimbria ovarica. The structure is firm, and appears to consist of normal ovarian tissue. Its colour is dull white, and the surface shows slight puckering, due to scars from previously ruptured follicles. The lower half of the ovary at the attachment to the ovarian ligament is dilated, and forms a rounded swelling with the following measurements: 4 cm. by 3 cm. by 2 cm. A rough granular area, 1 cm. in diameter, to which a small blood clot is adherent, is present at the extreme lower limit of this spherical enlargement. The clot appears to issue from a rupture in the wall of the swelling. There is no evidence of blood extravasation at any other part of the specimen.

"The Fallopian tube is normal in every way. The ostium is patent and the fimbriae luxuriant. In length, the tube measures 4 cm.; it is not distended, and is free from blood clot and adhesions.

"The meso-salpinx presents a well-marked Kobelt's cyst, but otherwise is normal."

In view of the possibility of ovarian pregnancy, I made a drawing of the specimen (Fig. 1) and placed the latter in the following hardening solutions, before submitting it to any further investigations:

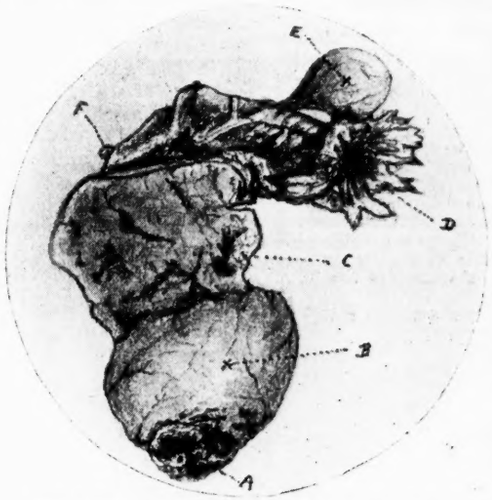

Fig. 1.—Specimen of ovary and Fallopian tube as removed at operation. A, Blood clot on surface of ovary; B, cyst at uterine pole of ovary; C, normal ovarian tissue; D, ostium of Fallopian tube; E, Kobelt's cyst; F, cut isthmic extremity of Fallopian tube.

Sodium sulphate	...	...	...	50 gr.
Magnesium sulphate		...	...	50 ,,
Sodium chloride	...	...	...	25 ,,
Formalin	...	...	...	200 c.cm.
Water	...	...	...	2,500 ,,

The specimen remained in this solution for seven days. It was then transferred to the second solution for a further period of fourteen days, namely:

Glycerine	...	...	...	600 c.cm.
Formalin	...	...	...	20 ,,
Sat. solution of potassium acetate		...	...	20 ,,
Distilled water	...	...	...	400 ,,

After hardening, the ovary was divided vertically from tubal to uterine pole, splitting it approximately into equal halves. The line of section passed through the centre of the clot on the surface of the organ. The following notes were made on the sectioned specimen:

"The quadrilateral tubal pole of the organ is solid, and macroscopically appears to consist of healthy ovarian tissue. A few small follicles are present in the substance of the ovary with one well-marked corpus albicans. The lower spherical area consists of a cyst about the size of a cherry, with translucent yellowish contents, coagulated by the agents employed in hardening the specimen. The lining of this cyst is composed of yellow friable tissue typically lutein in nature. It is definitely encapsuled, and at no spot is there any communication with the adjacent blood clot. This lutein cyst constitutes the only lutein element seen macroscopically in the specimen.

"The mass of blood clot adherent to the surface of the ovary is found on section to measure 0.5 cm. in thickness. It is solid throughout, and penetrates into the substance of the organ for a distance of 3 mm. It lies directly over the lutein cyst, at the pole most distant to the Fallopian tube. It is separated from lutein tissue, however, by a bridge 5 mm. in thickness and macroscopically having no connexion with the cystic corpus luteum.

"No chorionic vesicle or fetal structures of any kind are visible to the naked eye, the clot being firm and homogeneous throughout.

"The Fallopian tube on section presents a wall and mucosa that are normal in every respect. The natural folds of the latter are very well marked, and there is neither haemorrhage nor swelling in any part of the tube."

Fig. 2.—Vertical section through portion of ovary at site of gestation. A, Plasmodo-trophoblast on surface of ovary; B, ditto; C, ditto in substance of ovary, occupying capillary vessel; D, fibrinous and necrotic zone limiting normal ovarian stroma; E, blood clot; F, normal ovarian stroma. (For description see text.)

Microscopical sections were taken from the periphery of the clot and carefully examined. No fetal elements were found, although extravasation of blood had occurred to a considerable depth in the tissue. It was then decided to sacrifice the specimen and convert the whole area containing blood clot into serial sections, in the hope of finding gestation products. The sections were cut in the vertical direction and carefully numbered, to render reconstruction possible. Each tenth section was submitted to microscopical examination.

Microscopical Report on Specimen.

The sections show definite plasmodo-trophoblast attached to the surface of the ovary and invading the superficial layers. There is much blood extravasation and necrosis of the ovarian tissue immediately surrounding the haemorrhagic area. The

normal ovarian stroma is marked off from the necrotic zone by a tortuous band of fibrin and fibrous tissue. The surface of the ovary presents an irregular cavity from which the contents have escaped. The presence of plasmodo-trophoblast attached to the walls of this gap suggests that it was originally occupied by a blastocyst, the latter being lost in the blood clot resulting from the rupture. No chorionic villi are seen, and the pregnancy is presumably of very short duration.

A portion of the ovary showing plasmodo-trophoblast lining the cavity above mentioned is illustrated in Fig. 2. The photomicrograph gives a general view of the structure seen on vertical section through the centre of the blood clot on the surface of the ovary. The trophoblast appears as isolated strands of protoplasm containing numerous darkly-stained nuclei. It is attached principally to the surface of the ovary, but a mass of similarly nucleated protoplasm is seen deep in the tissues occupying the lumen of a capillary vessel. It is limited peripherally by a tortuous band of fibrous tissue undergoing necrosis. The latter merges into the normal ovarian stroma seen at the extreme right of the section. There is considerable extravasation of red cells into the stroma at the upper part of the photograph, but the trophoblastic elements are here absent.

Fig. 3 illustrates a portion of the same tissue under a higher magnification (⅓ objective). The characters of the plasmodo-trophoblast are well seen and the situation of a mass of protoplasm in the lumen of a capillary vessel eroding its wall affords some explanation of the large haemorrhage which has caused destruction of the specimen. A few large solitary cells with a single definite nucleus are also present in the section. According to Teacher and Bryce, such cells are probably maternal and possibly point to an effort on the part of the ovary to produce decidua from the connective tissue stroma cells.

Fig. 4 shows a section taken at a deeper level than the preceding and forms a continuation with the latter. It illustrates the minute structure of the cyst wall lying beneath the seat of the pregnancy. It will be seen that the immediate lining of the cyst is composed of dense fibrous tissue. This is limited peripherally by typical lutein cells. There has been a small haemorrhage into the fibrous tissue, but the wall is entirely intact and the lumen is occupied by hyaline contents. There is no plug of fibrin or any irregularity in the contour of the cyst, and the lutein tissue in the ovary is confined absolutely to the immediate vicinity of this body.

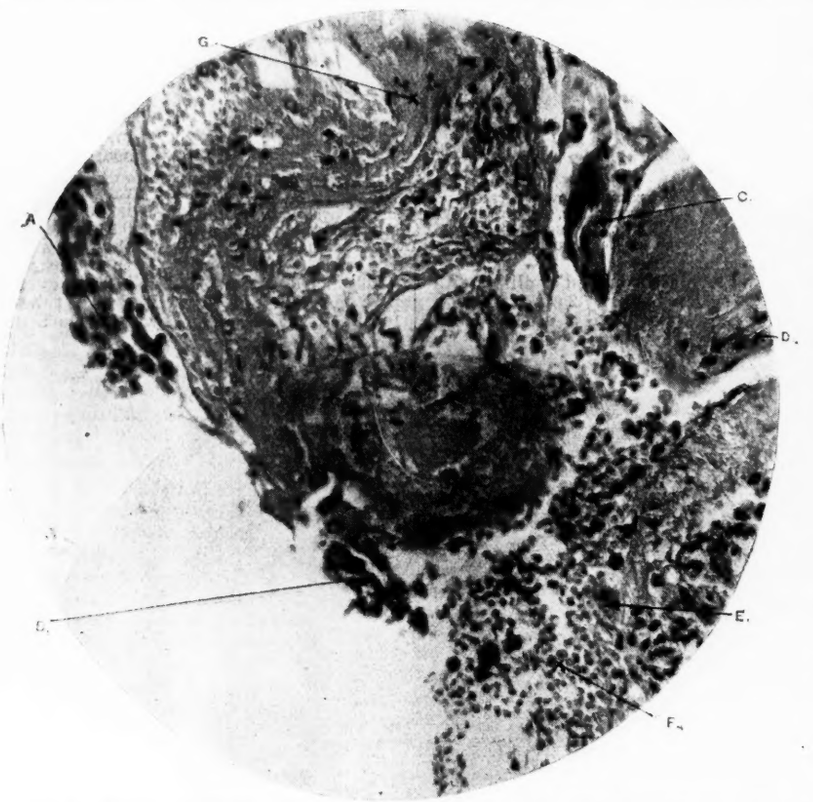

Fig. 3.—Portion of tissue seen in Fig. 2 under ⅓ objective. A, Plasmodo-trophoblast on surface of ovary; B, ditto; C, plasmodo-trophoblast occupying lumen of ruptured capillary; D, decidual-like stroma cell; E, ditto; F, blood clot; G, fibrinous and necrotic zone. (For description see text.)

Microscopical examination of the Fallopian tube showed a perfectly normal structure. No evidence of any haemorrhage or fetal structures was found. Furthermore, no decidual reaction was noted in any of the tubal sections examined.

This case suggests several interesting points for discussion. In the first place, can it be granted that the presence of plasmodo-trophoblast is sufficient evidence of pregnancy? Without this assumption the specimen falls to the ground as an example of ovarian gestation, as further evidence of pregnancy is wanting. No chorionic villi are present, and the blastocyst has been lost apparently in the blood clot removed at the operation. C. van Tussenbroek[5] argued from her historical specimen that the plasmodium covering the villi of an ovum embedded in the ovary cannot be a derivative of the uterine epithelium, and the work of Teacher and Bryce[1] furnishes very decisive proof that this plasmodium is definitely fetal. Granting, then, that trophoblast is essentially a product of gestation, is one justified in stating that this tissue is only found under these circumstances? The recent work on chorion-epithelioma appears to negative this assertion. On June 10th, 1909, Fairbairn[6] exhibited a specimen of primary chorion-epithelioma of the ovary before the Obstetrical and Gynaecological Section of the Royal Society of Medicine. A full report of this remarkable specimen, with reference to similar cases described by Döderlein and others, appeared in the Society's *Transactions* for July, 1909. Sections of this tumour showed the usual syncytial meshwork with masses of polyhedral cells derived from Langhans's layer. No decidual reaction was present in either tube or uterus, and there was nothing in the history of the case to suggest that the condition had supervened upon a previous pregnancy. Pick,[7] also, has collected seven cases of primary ovarian tumour containing chorion-epitheliomatous elements; several of these neoplasms occurred in young girls before the age of puberty, and more than one contained teratomatous elements. Reference also should be made to the cases of Kanthack[8] and Eden and Schlagenhaufer.[9] These authors also mention the presence of plasmodial tissue in association with sarcomatous elements in the male testis. Schlagenhaufer suggested as an explanation that the chorion-epithelioma-like tissue represented the trophoblast of an included ovum, the latter being now generally regarded as the source of ovarian teratoma and dermoid tumours.

Ritchie[10] has described a dermoid containing plasmodium in the anterior mediastinum of a man, secondary nodules being present in the lungs, etc.

These cases prove that trophoblast may occur apart from pregnancy, and can be used as arguments against the thesis that the specimen described is an example of ovarian gestation, in the absence of more conclusive data. On the other hand, it must be noted that in all the above cases syncytium did not occur alone. It was always associated with other elements; either the polyhedral cells of chorion-epithelioma, sarcomatous cells, or definite teratomatous elements. No specimen is recorded in which plasmodo-trophoblast is the only abnormal structure present. Furthermore, all the above-mentioned cases were associated with the development of a tumour. In no instance was operation performed for an acute condition, and none were associated with internal bleeding. Severe internal haemorrhage has for long been associated with the rupture of an extrauterine gestation, although recent cases have shown that other factors may be concerned in the production of this catastrophe.

Cuthbert Lockyer[11] recently recorded two cases of pelvic haematocele of ovarian origin, and a third is described by Thomas Holmes[12] in the BRITISH MEDICAL JOURNAL of March 19th, 1910.

The present case would be included under this heading were it not for the presence of plasmodo-trophoblast,

which at once places it in a different category. The association of severe haemorrhage, with the presence of plasmodo-trophoblast and a recent corpus luteum, although cystic, and the absence of any tumour containing other chorion-epitheliomatous or teratomatous elements is strong evidence that the condition is one of ovarian gestation.

The pregnancy is apparently of extremely short duration, but in the absence of more exact data from the microscopical specimens the exact period can be only speculative. Little help is obtained from the menstrual history. During the first three months of her previous intrauterine pregnancy the patient menstruated regularly; and in the present instance there was no period of amenorrhoea previous to the illness terminating the gestation. In fact, the catamenia, normal in all respects, ended only six days before the onset of acute symptoms, and the patient was unaware that pregnancy had occurred. A very definite history regarding coitus was obtainable. The dates upon which coitus occurred were given as December 12th and 26th.

Teacher and Bryce,[1] following the observations of Birch-Hirschfeld,[13] allow twenty-four hours as the interval between coitus and normal fertilization. If it is granted that the gestation terminated on December 31st, with the onset of acute symptoms, a choice between eighteen and four days is possible as an index to its duration. It is impossible to correct or amplify these figures by His's convention, because no menstrual period was missed The presence of plasmodo-trophoblast with a comparison of other early cases points to eighteen days as being approximately correct. In Teacher and Bryce's early case of ovarian pregnancy the duration is given as from twelve to fifteen days, and here definite chorionic villi with Langhans's cells and plasmodium are present.

In the earliest case of intrauterine pregnancy recorded—namely, fourteen and a half days (Teacher-Bryce ovum),[1] plasmodo-trophoblast and cyto-trophoblast are present, but no definite chorionic villi are seen. On the other hand, in the important ovum described by Eternod,[14] the age being 18 to 19 days, the villi are well developed and measure 1.2 to 2 mm. in length.

In the specimen I describe villi are entirely absent, although the plasmodo-trophoblast is well developed. Of course, it is possible that the villi have been lost with the blastocyst in the mass of blood clot. It is surprising, however, that not a single villus was seen after complete section of the specimen in the presence of such well-developed trophoblast.

One is forced, therefore, to the following conclusions: Either (1) the chorionic villi have been completely lost in the course of operation; or (2) the ovum is of a very early age, and the epiblastic proliferation constituting the trophoblast has not been invaded by the fetal mesoblast in the production of chorionic villi.

In the absence of further data it is impossible to fix the duration of the pregnancy within exact limits.

The relation of the pregnancy to surrounding structures must next be considered. Norris[2] in his paper referred to the conditions formulated by Speigelburg[15] which must be fulfilled before a diagnosis of ovarian gestation is justified. He furthermore added the rider that the Fallopian tube on the affected side must be microscopically free from any evidence of pregnancy. The present case conforms to these revised requirements. The Fallopian tube is macroscopically and microscopically normal. The evidence of gestation occupies the ovary, and the portion of the organ containing the specific elements is connected to the uterus by the ovarian ligament.

It remains, finally, to consider the relation of lutein tissue to the trophoblast. The corpus luteum in this specimen is represented by the cystic body described above and illustrated in Fig. 4. The relationship of cystic corpora lutea to abnormal pregnancy, ectopic and otherwise, is interesting. The condition is now well known and needs no further comment.

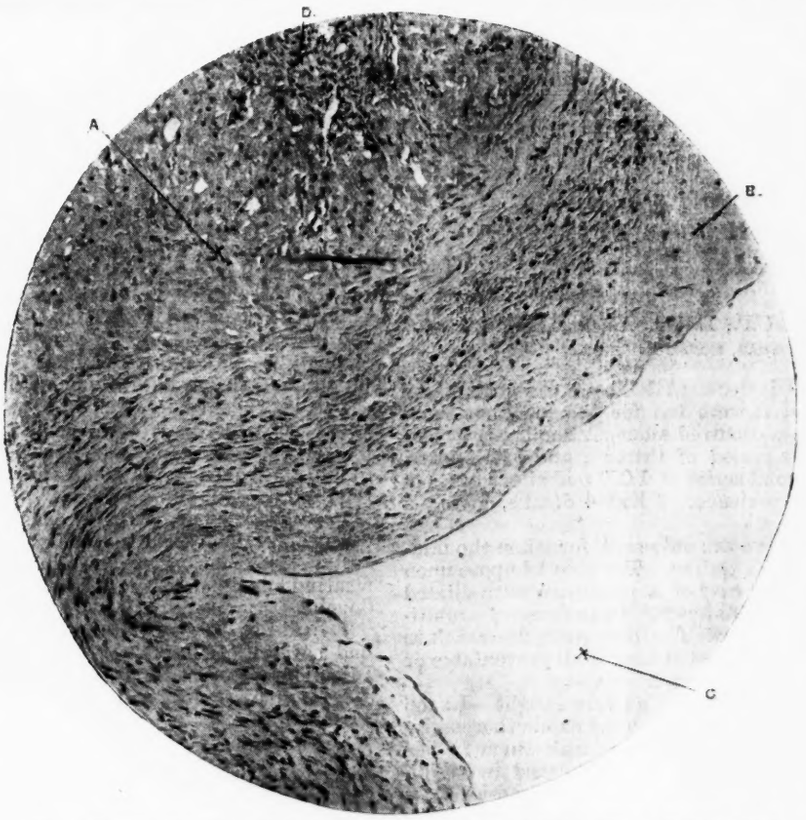

Fig. 4.—Section through wall of cyst shown in Fig. 1. A, Lutein cells; B, fibrous lining of cyst; C, hyaline contents of cyst; D, ovarian stroma cells. (For description see text.)

A point requiring emphasis, however, is that the wall of the cyst in this case is microscopically intact. The lutein cells are separated from the tissues containing trophoblast and extravasated blood by a narrow layer of normal ovarian stroma. This is bounded peripherally by the tortuous band of fibrous tissue and fibrin described above.

There is, in fact, no evidence of any previously existing connexion between the gestation elements and the follicle from which the ovum presumably is derived. The specimen, therefore, is in accordance with that described by Hewetson and Jordan-Lloyd.[16] It suggests the view that fertilization occurred on the surface of the ovary, and that the ovum, by virtue of its trophoblast, then burrowed into the gland.

As in other records, there is no decidual formation on the part of the corpus luteum. Reference has been made above to the possible decidual reaction of the ovarian stroma cells. A few of these large mononucleated cells are seen in the sections of this specimen, but their origin can only be speculative. It is upon the presence of decidual-like elements in the ovary that Webster[17] has based his theory of Müllerian tissue being an essential factor for the development of a fertilized ovum. The uterus and Fallopian tubes are Müllerian in development, but the ovary is of Wolffian origin. Webster argues that ovarian pregnancy can only occur within an ovary the seat of Müllerian inclusion. Norris[2] very rightly points out that decidual-like tissue has been found on the posterior surface of the uterus, peritoneum of Douglas's pouch, and rectum in women dying during or shortly after labour. Unless more definite evidence is forthcoming, ovarian pregnancy appears to point to the fallacy of Webster's theory.

The etiology of the present case is obscure, as there is no degree of inflammation about the Fallopian tube to prevent the entrance of the fertilized ovum to its lumen. Possibly over-activity of the lutein body stimulated trophoblastic formation and burrowing of the ovum before the latter had succeeded in obtaining access to the ostium abdominale by the peritubal peritoneal currents.

In conclusion, my thanks are due to Mr. Lucas, Assistant Surgeon to the General Hospital Birmingham, for the specimen forming the subject of this paper; and to Dr. Thomas Wilson, Honorary Gynaecologist to the General Hospital, Birmingham, for kind assistance in the microscopical investigation of the same.

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NOTES ON ONE THOUSAND CASES OF INSTRUMENTAL LABOUR, WITH FOUR DEATHS, IN A COLLIERY PRACTICE.*

BY

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THIS series of 1,000 instrumental labour cases might be termed consecutive if it were not for the fact that about twelve natural labours occurred amongst them.

They extend over a period of thirteen and a half years, and comprise the second series of 1,000 midwifery cases of which I have had experience. I had 4 deaths, giving a death-rate of 0.4 per cent.

In colliery practices we are only sent for when the midwife thinks that help is required. The rule I impose upon the midwives is: In the case of a primipara with dilated os and good pains, wait two hours. In the case of a multipara, wait at least one hour. The one great drawback to this method of practice is that of course all preventable or corrective midwifery is impossible.

My methods are the usual ones as now taught. I keep my nails cut short, I wash and scrub my hands thoroughly with hot water and soap, and then soak them in hot biniodide solution. All instruments are placed in boiling water and lysol. I prefer to have the posterior hair clipped and the pubic parts thoroughly disinfected. My midwifery bag contains everything that is necessary except a cranioclast and sterilizer.

I allow a reasonable time for expulsion of the placenta—say, twenty to thirty minutes—and I extract it by a combination of Credé's method and gentle traction. If I have any suspicion that a piece of membrane is left behind I always carefully search the interior of the uterus. I give plenty of chloroform upon an open mask. For years I always douched out the vagina and uterus with a Bozeman's tube and lysol, but I have almost abandoned it because I found it difficult to guarantee the aseptic condition of the instruments.

I have the bowels opened on the second or third day, preferring two or three teaspoonfuls of magnesium sulphate as an aperient taken upon the fasting stomach.

I encourage the patient to sit up in bed from the third day on, and after the first day allow the ordinary diet, of course in reason.

My four deaths in this series were as follows:

The first was due to concealed accidental haemorrhage; the pains were of an agonizing description, and when the os was dilated I gave chloroform and delivered. The placenta followed naturally, and then came two huge clots of different colours. The patient sank and died in about half an hour.

The second death was a perforation case, when unfortunately I had no cranioclast handy, and I am afraid I used more force than was safe in extracting with the forceps. She developed peritonitis and died.

The third death was also a perforation case, when vomiting set in on the third day and continued until the patient's death on the ninth day. She had no rise of temperature, and apparently nothing the matter with the genital tract. There was total obstruction of the bowels, and what caused it I cannot surmise unless it were connected with the fact that she fell a couple of days before delivery.

The fourth death was also a perforation case. She apparently got all right, and came downstairs in due time and then caught influenza. She was getting the better of that when one day, as her husband was reading to her, she calmly announced that she was dying, and die she did. She was trying on old bonnets a minute or two before death. I suppose embolism must get the credit of that death.

Two of these deaths, I think, might have been avoided, so that it would be possible to do 1,000 cases of instrumental labour in a colliery practice with what I consider the low death-rate of 0.2 per cent.

Trouble arose through the chloroform in three cases. Two had some kind of epileptic fits, and one got pale in the face and stopped breathing; her tongue was pulled forward, when she ejected some fluid and recovered. I must confess these cases startled me considerably. I know of no preventive of rupture of the perineum save slow, careful delivery, and episiotomy. I always sew up each laceration carefully, doing it while the patient is under the influence of the chloroform, and before the expulsion of the placenta. I employ silkworm gut and a Hagedorn's needle. I generally do it in the lateral position. As years go on I get fewer ruptures. Of late years I have never failed, with one exception, to get a good sound union. Episiotomy I generally reserve for elderly primiparae.

On two occasions I had occasion to practise secondary suture of the perineum, with excellent results. I mean by secondary suture from the seventh day on, and I can strongly recommend it for those cases in which primary union has failed or suturing has been neglected.

I had two cases of complete rupture of the perineum; one I consider could have been avoided, the other was unavoidable. The first case healed up and stood the strain of two subsequent craniotomies; the other, I regret to say, required operation in a hospital.

Post-partum haemorrhage caused anxiety in some six cases, and in one serious anxiety. I always employ saline rectal injections after haemorrhage. I depend upon clearing out the uterus, compression, and hot intrauterine douche.

I had not one case of placenta praevia centralis. I had several of the lateral variety and no bad results. Injections of ergotine I have abandoned, as the tablets are often inert, and the bulbs smashed in the bag when most required.

Analysis of the 1,000 Cases.

Thirty craniotomies.

Two face presentation, both of the favourable type.

One brow, this demanded craniotomy.

Twelve transverse presentations; three of these occurred consecutively in the same patient.

One anencephalic monster, in which singularly enough the use of forceps was required. The head, or what represented the head, would not engage in the pelvis.

As regards instruments, I pin my faith to Nevill's axis-traction forceps, Auvard's cranioclast, Simpson's perforator, and a blunt hook with a good curve. I think that in the course of my midwifery career I have run the gauntlet of all the varieties of forceps, and I consider that the chief requisites are a proper fitting blade and one strong enough, everything else is merely secondary.

I do all my craniotomies myself. The majority of these were done in the persons of four patients, all with contracted pelvis.

Mrs. J. I confined her 10 times, with the results of 3 living children and 7 craniotomies.

Mrs. B. (her sister) 4 times—3 craniotomies and 1 living child.

Mrs. C., 10 times—4 living children and 6 craniotomies.

Mrs. P., 3 times—2 craniotomies and 1 living 7 months child.

If I were asked what I considered the most awkward operation in ordinary midwifery, I would answer, perforation and craniotomy of the after-coming head in a breech case with flat pelvis, and a large child having a short, fat neck.

* Read at a meeting of the Monmouthshire Division of the British Medical Association.

In breech cases I always use the blunt hook. Once I had a fractured thigh, but that was through carelessness.

I had a footling case that gave me a surprise. It was a seven months case, and the leg was protruding well into the vagina. I broke the membranes, when the rush of waters caused the child to perform a somersault, and converted it into a head presentation. The os closed, and left me absolutely dumfoundered. The case came off naturally in a couple of days.

As regards some of the curiosities in this series:

Once I heard a child cry before the head was born.

One case was hydrocephalic, and not so easy to diagnose as one would think.

One patient gives birth to enormous dead children with a deep layer of solid oedema. One placenta, after squeezing out the blood, weighed 3 lb. 10 oz.

Another patient had a very projecting promontory, and the head slipped over it with a bump that was audible over the room.

One patient developed peripheral neuritis in both feet; what caused it I never could find out.

I think the most extraordinary experience I ever had was a case of some species of catalepsy—or, more accurately, perhaps, prolonged fainting. She was a primipara whom I delivered with forceps. There was some haemorrhage, but nothing alarming. She then passed into a state of unconsciousness. Her pulse became slower, weaker, and finally could not be detected at the wrist. Her breathing became almost imperceptible; her cheeks became of a dead-white colour. She lay motionless as if carved out of marble. I stayed some time, but had to leave her, and on passing by the house in the early morning I called and found her perfectly well, and as lively as if nothing had happened.

I have another patient who behaves in somewhat similar manner. Twice I have been called after labour was over and found her unconscious, and had considerable difficulty in restoring life. She has sharp haemorrhage in each labour.

One primipara kept me busy all day running to and fro endeavouring to keep the heart going, and when she recovered she calmly informed me that similar trouble arose in a London hospital after chloroform for a trivial operation.

Once I was called in to see a case of proptosis of the eyeball in the newborn, and I thanked my stars that there had been no necessity for my services. I lost sight of the people, and cannot say what was the result upon the eyesight. The eye certainly settled back in the place and seemed to be all right.

Four of my cases suffered from pronounced fibroids. There was no haemorrhage.

I had two cases of vesicular mole. One called for curetting on account of the haemorrhage.

Once I was called up in the middle of the night to attend a patient, confined seven days. I found her on the verge of departing this life. She had been flooding with secondary *post-partum* haemorrhage for three or four days. She was in such a critical state that I dare not give chloroform. Fortunately there was no trouble in exploring the uterus. I found a small hard growth in its interior which I curetted away. She made an excellent recovery. This case is stamped upon my memory because I used chloroform instead of lysoform in douching. In the dim light I mistook the bottles, and the result was that she nearly blistered round the buttocks. However, it must have acted as a good antiseptic.

One of my cases swallowed a tablet of mercury perchloride instead of pil. opii. The nurse had stupidly left the tablet upon the dressing table. Luckily the burning sensation in the mouth and throat aroused suspicion. I was summoned and happened to be handy, when an apomorphine injection and plenty of mustard and water saved the situation.

I had a case of hyperemesis in which I was compelled to induce labour in the seventh month. A live child was born, but my patient unfortunately contracted septic endometritis. This is the only case of the sort I ever saw. The stench in the room was unbearable. After repeated use of the curette, douching, and swabbing, she recovered. I am afraid she was infected by the nurse, who happened to be attending a septic case at the time. The chief peculiarities of the case were: no great rise of temperature, a state of sleepless excitement almost amounting to mania, and the fetid, dark-coloured discharge.

I have consulted all the nurses, and looked over whatever records I possess, and I can find mention of only 7 cases of puerperal infection. I am confident that there were no more. In these 7 cases I had one death, the others recovered; in fact, only two gave rise to any anxiety.

The plan of action that I follow is that laid down by Dr. McCann. For the first couple of days I give a saline mixture, get the bowels well opened, and employ the vaginal douche. I then proceed to uterine douches, and, if there is not a speedy improvement, I give chloroform, press down the uterus, and explore. I use the blunt curette, sometimes the sharp, swab out with perchloride or iodine, and follow up with copious injections of some weak antiseptic solution.

I had one case of puerperal ulcer. This developed on the left labium and destroyed part of the perineum. Of puerperal eclampsia my experience has been fortunate. In this series there were two cases, not severe. I must confess I believe in emptying the uterus as soon as possible. Twice have I been summoned hurriedly to deliver and found the patient dead. One had severe cardiac disease, and the other was badly waterlogged.

One woman, the mother of thirteen children, never knew the meaning of after-pains, and one daughter has inherited the happy peculiarity.

One patient never menstruated before marriage, and another menstruates only when she is pregnant. She enjoys fairly good health.

The ages of the primiparae varied from 17 to 44. Once I was engaged to attend a married woman of the mature age of 14 years and 9 months, and when I arrived the baby was born.

One of the trained nurses was followed for a whole summer by an epidemic of pemphigus neonatorum. She changed her clothes and took antiseptic precautions, but it still clung to her, gradually dying out.

It has happened to me at least once to be summoned to a case after confinement and to find the patient dying and nothing to account for it.

There are two curious opinions current amongst the older midwives:

The first is, that if you have to attend a patient who by reason of her occupation has been chained to a chair, you always get a badly ruptured perineum. I believe there is some truth in that.

The second is, that undoubtedly instruments are called for more often now than formerly. They consider the babies are larger, the parents earn more money, get better food, and altogether take life more easily. Perhaps a simpler explanation is that people are more impatient of bearing pain.

That last *obiter dictum* leads up to the question, Did all these cases really require instruments? I must say that I consider the vast majority did; doubtless there was a small minority that only required a little more time and patience.

Perhaps the confession may lead to censure, but that I can only accept from those cognizant of all the peculiarities of this kind of practice; and these only judges are my fellow-workers, often harassed, often ill-paid and often overworked—the body of colliery surgeons.

LARGE SIMPLE OVARIAN TUMOUR REMOVED FROM A GIRL.

By GEORGE McMULLAN, M.B.,
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THE following case is of some interest on account of the age of the patient, the large size of the tumour, which probably had been present in some degree since the onset of symptoms—that is, some eighteen months previous to operation—and lastly, on account of the character of the cyst; for, while the occurrence of malignant tumours of the ovary is not uncommon at this or even at an earlier age, simple multilocular cysts are comparatively rarely met with.

Edith L., aged 16, single, a domestic servant, had first menstruated at the age of 14½ years. She continued to do so regularly every four weeks until July, 1908, when she was 15.

Menstruation then commenced to be irregular and accompanied by pain, and some months later intramenstrual pain was experienced. This state of things continued for some twelve months, the menstrual periods becoming more irregular and occurring at longer intervals, while the pain became more constant in character. About September, 1909, she noticed her clothing becoming tight, and thought her abdomen was becoming larger. It was not, however, until January, 1910, that she sought medical advice, and was then treated for some weeks apparently on the assumption that she was the subject of tuberculous peritonitis. She had had no previous illnesses of importance, and the family history did not appear noteworthy.

Condition on Examination.

The patient was somewhat emaciated, but did not show any symptoms of respiratory embarrassment, in spite of the enormous enlargement of the abdomen, neither were the functions of the bladder or alimentary canal interfered with to any extent. Inspection of the abdomen showed marked symmetrical enlargement; abdominal respiratory movements were normal. The whole abdomen was very tense, and a well-marked thrill could be elicited. Palpation produced no pain, even on considerable pressure. The whole swelling yielded a dull note, extending as high as the costal margin. Above this there was a resonant area, completely replacing the liver dullness. There was resonance in either flank, and, furthermore, the latter resonant areas could be slightly increased by turning the patient on to the opposite side. Rectal examination showed a normal uterus, freely movable, but an ill-defined mass could be felt lying to the right of this organ.

Operation.

The patient having been prepared overnight, an incision, 5 in. in length, was made through the right rectus muscle near the middle line, extending from the umbilicus to a point about an inch above the pubis. The character of the cyst was at once apparent. Having been found to be free from adhesions, it was tapped, 14 pints of clear, glairy fluid being evacuated; it was withdrawn from the abdomen, its pedicle transfixed and ligatured by interlocking sutures of silk, and removed. The left ovary having been examined and found normal, the abdominal wound was closed by three tiers of sutures.

The anaesthetic used was gas and ether. Recovery was uneventful. The tumour, on examination, was found to consist of one very large and several smaller cysts. No ovarian tissue could be recognized in it by the naked eye.

SPINAL ANALGESIA AND PITUITARY EXTRACT FOR FORCEPS DELIVERY DURING ACUTE PNEUMONIA.

By J. A. HENTON WHITE, M.D., F.R.C.S.Edin.,
BIRMINGHAM.

I CAN find no record of forceps delivery under spinal analgesia, and venture to think the following case is of interest.

On April 4th I first saw Mrs. M., aged 28. She expected to have been confined of her fifth child on March 30th, and had engaged a midwife to attend her. All went well until April 3rd, when a bad shivering fit, accompanied by stabbing pain in the right chest, set in.

I found her sitting up in bed breathing very rapidly (40), cyanosis was marked, the pulse 140, and the temperature 102°. There were signs of consolidation and pleuritic friction over the lower and middle lobes of the right lung. There was no sign of labour. Next day the patient was weaker and did not recognize people, and showed signs of puerperal insanity.

At 1 a.m. on April 7th I was sent for, and found labour had set in; the os was about the size of a crown, and the waters were broken; the head was above the brim. The patient was desperately ill, the pulse was thready, and the cyanosis was of a livid hue. In spite of strychnine hypodermically, no efficient pains could be induced, and to prevent the patient dying undelivered I decided to try spinal analgesia; 1 c.cm. of a 5 per cent. solution of tropacocaine was injected in the middle line of the back below the twelfth dorsal spine with the patient leaning forwards sitting up in bed. Analgesia supervened rapidly, and I applied forceps with the patient sitting on the side of the bed, with the legs as far apart as possible, and supported on two chairs. I found it impossible to exert enough traction in this position, and put the patient on the left side, with the shoulders well raised on pillows, with the double object of easing the breathing and preventing the fluid running too high up the spine. I then rapidly effected a difficult delivery. The child was a large one, and there was a depressed fracture of the frontal bone owing to the severe traction required and the angle at which I was obliged to pull; it survived only two days. As soon as the child was delivered serious flooding set in, due to atony of the uterus from the spinal analgesia, and also to the engorged state of the venous system. I had anticipated this, and at once injected 12 minims of pituitary extract (Duncan, Flockhart and Co.) into the buttock, and introduced my hand into the uterus; as soon as I had well grasped the placenta a violent contraction of the organ took place, so violent that it would have been impossible to introduce the hand. The placenta was removed and the bleeding stopped. The pulse greatly improved; instead of being thready and uncountable it became of full volume and good tension, and the general condition was very good.

The pneumonia ran a severe course, the upper lobe of the right lung becoming involved on April 10th, and puerperal insanity set in severely. The patient died from exhaustion on April 19th.

This case, although unfortunate in its termination, is instructive in that it shows the possibilities of spinal analgesia under conditions which precluded the use of a general anaesthetic. The woman felt nothing of the severe traction which I had to use. I could not safely have injected ergot to cause uterine contraction owing to its depressing action on the heart. Pituitary extract acted splendidly in this emergency, and is, I feel sure, a drug to be kept in the midwifery bag for use with a weak heart. Normal sensation returned in the legs about two hours and a half after the injection. The urine had to be drawn off on April 10th.

This case was conducted single handed with the help of an untrained woman, in a badly-lighted room.

SOME OPHTHALMIC CONDITIONS CAUSED OR INFLUENCED BY DISEASES OF THE UPPER RESPIRATORY TRACT.

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THE consideration of abnormal nasal conditions and the possibility of their presence coincident with eye disease is of much importance to the ophthalmic surgeon in forming his diagnosis and carrying out his treatment; the rhinologist, on the other hand, does not obtain so much assistance from ophthalmology, for nasal conditions are not much affected by ocular disease.

The ophthalmic surgeon may not be able to complete his treatment of a case without the assistance of a rhinologist, but he should be so equipped as to be able to complete his diagnosis without additional advice.

EYE CONDITIONS IN CHILDREN.

Corneal Ulcer.

One of the most common eye diseases of childhood, especially in hospital practice, is ulceration of the cornea. The condition is troublesome to treat, usually very painful, and *cure* is frequently delayed for years on account of the great tendency to recurrence. As the ulcers may be deep and centrally situated, leaving permanent and dense nebulae, they are the cause of a considerable amount of defective vision.

The chief causative factors are bad hygiene, insufficient and unsuitable food, and the presence of post-nasal growths.

The first and last of these may be said to be always present in hospital patients, but the food factor may not be so prominent, owing partly to the fact that the painful nature of the affection and the general depressed condition of the child makes him refuse the best of food. Bad hygiene, which includes lack of cleanliness, of nursing, of warmth, and of good surroundings, has much to do both with the general ill health and tardy recovery. This is shown in patients admitted into hospital when nearing perforation; the child is cleaned, kept warm, and well nursed, generally as well as locally, he soon begins to eat, and recovery is much more rapid. This, however, is not cure, and recurrence is the rule within six or twelve months; the chief cause of this recurrence is the presence of post-nasal adenoid growth. If the adenoids are removed when the eye condition is quiescent recurrence is the exception. I am so convinced of this that I do not consider any case of severe or even slight corneal ulceration has been adequately treated without resort to this operation, for a slight initial attack may be followed by a severe second one with great disturbance of vision. The following is a typical case:

A boy, aged 6 years, with deep central corneal ulcers of both eyes, much pain and photophobia, was treated for three years at the South London Eye Hospital; on an average he had three recurrences yearly, consequently he was practically in continuous attendance. On three occasions his condition was so

pitiful that he was admitted as an in-patient, only to relapse soon after his discharge.

On examining the post-nasal space digitally I found he had a diffuse adenoid growth, not large in amount, but very unhealthy, producing an odorous secretion of a caseous character. At one children's hospital the amount of growth was not deemed sufficient to indicate removal. At a throat hospital, however, the post-nasal space was thoroughly cleaned, with a remarkable result. The lad began to eat well, he increased rapidly in height and weight, the ulcers became firmly healed, and at the end of eighteen months there had been no relapse.

Mouth breathing is usually looked upon as the only symptom pathognomonic of post-nasal growths, but some children—those with a high cephalic and nasal index—have a large post-nasal space, which may contain a considerable amount of healthy or unhealthy adenoid growth without the production of mouth breathing. If the post-nasal space is small, as in children with a small cephalic and nasal index, quite a small amount of adenoid growth will produce mouth breathing. Such cases are frequently complicated by nasal obstruction.

A digital examination of the post-nasal space is seldom necessary in order to make a diagnosis. The conditions and symptoms, apart from mouth breathing, which may be looked upon as pathognomonic of the trouble are:

1. Acute or chronic otorrhoea in childhood.
2. Children who are classed as "delicate" without any discoverable organic disease; they are badly nourished; their appetite is capricious as the result of a mucous dyspepsia caused by swallowing the secretion from the post-nasal space.
3. Children who are subject to attacks of bronchitis and broncho-pneumonia during the winter months.
4. A very large percentage of children with enlarged tonsils also have post-nasal growths.

This is not an exhaustive list, but it is a good basis on which to make a diagnosis. As regards the nutrition of the child, the condition of the hypertrophy (that is, whether in a healthy or chronically inflamed state) is of more importance than the amount; a small amount of unhealthy, chronically inflamed adenoid tissue will disturb the child's digestion and cause loss of appetite, with frequent attacks of sickness, to such an extent as to prevent assimilation of suitable food, whereas a large amount of growth may cause nothing more than mouth breathing and its results.

Other common eye diseases associated with the presence of adenoids are phlyctenular keratitis and conjunctivitis and severe blepharitis. Children with these complaints, if in poor condition and ill health, should have the post-nasal space examined, and, if necessary, curetted.

Dacryocystitis.

Another point of importance concerning the healing of corneal ulcers is that if there be a coincident dacryocystitis healing will be much retarded and very serious complications may arise.

In infants dacryocystitis is due to an imperforate nasal opening due to developmental defect; the cord-like thickening which has separated along the naso-lacrymal groove has acquired its lumen, but the process has not been quite completed at the nasal extremity.

Many cases of acute and chronic dacryocystitis in adults are dependent on nasal trouble. The nasal duct must be regarded rather as a nasal diverticulum than a conjunctival appendage; the columnar epithelium and the submucous cavernous network are common to both the nose and nasal duct. In hypertrophic or atrophic rhinitis an extension of the trouble may take place along the nasal duct, causing obstruction to the flow of tears—in the first case from swelling of the cavernous tissue, and in the second from formation of stricture caused by atrophy of the submucous tissue.

If the nasal duct be healthy there is probably no passage of micro-organisms from the nose to the conjunctival sac. The flow of tears towards the nose and the valve-like action of the mucous membrane at the nasal end of the duct prevent any regurgitation from the nose. It must be remembered, however, that the healthy nose, like the healthy conjunctival sac, contains no pathogenic bacteria. Thomson and Hewlett[1] have shown that virulent micro-organisms placed on healthy turbinates rapidly disappear, whereas at the nasal orifice and on the vibrissae manifold micro-organisms may be demonstrated. When the duct is in an unhealthy condition and not performing its functions normally, bacteria may enter it from an unhealthy nose or conjunctival sac, and cause acute or chronic blenorrhoea of the lacrymal sac. Nasal polypi rarely find their way into the inferior meatus of the nose so as to occlude the orifice of the nasal duct. Tertiary syphilis of the nose with bony necrosis in the region of the lacrymal and inferior turbinate bones causes obstruction and a perisaccular abscess with much brawny swelling. Although many cases of acute dacryocystitis are secondary to chronic inflammation of the lacrymal sac and nasal duct, some are due primarily to nasal disease, especially anterior ethmoiditis. The anterior ethmoidal cells are very irregular in their arrangement; sometimes they closely surround the infundibulum of the frontal sinus, and in this region of course come into close association with the lacrymal bone and sac. If suppuration takes place in these cells a perisaccular abscess may result. In all such cases where, on probing, bare bone can be felt the nose should be carefully examined, and when the cells are affected they must be broken down and curetted.

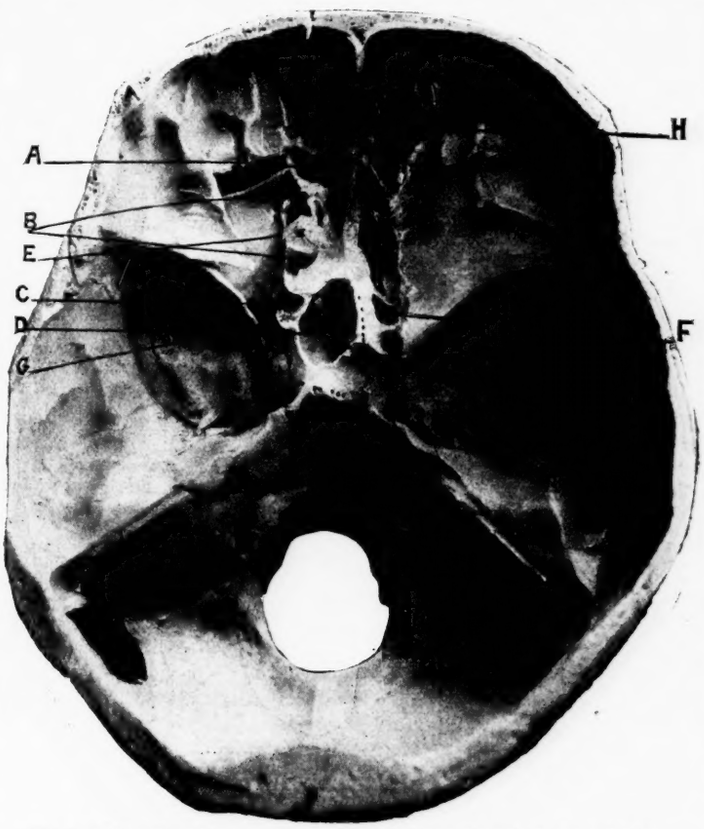

Fig. 1.—Dissection of accessory nasal sinuses from the anterior cranial fossa. The roof of the *left* orbit and of the accessory nasal sinuses have been removed. On the right side the orbital plate of the frontal bone is intact. It well indicates the extent and irregularity of the sinuses, and their relation to the orbit. The left sphenoidal sinus—extent posteriorly is indicated by the dotted line—practically occupies the whole of the body of the sphenoid bone. Suppuration in such a sinus might account for contralateral blindness. A, Left frontal sinus. B, Ethmoidal cells. C, Optic canal. D, Large sphenoidal sinus showing opening (anteriorly) into nose. E, Inner wall of orbit. F, Small right sphenoidal sinus. G, Sphenoidal fissure. H, Large right frontal sinus.

In dacryocystitis, therefore, the abnormal nasal conditions to be recognized are hypertrophic and atrophic rhinitis, bony necrosis due to tertiary syphilis, anterior ethmoiditis, and possibly nasal polypi. In such cases the treatment of dacryocystitis must be most unsatisfactory without careful and patient treatment of the nasal condition.

The treatment of obstruction of the nasal duct in its earliest stages should always be accompanied by treatment of the nasal condition, and I feel sure better results

would accrue if the ophthalmic surgeon did not interfere until the nose had been thoroughly treated by a rhinologist.

Conjunctivitis and Blepharitis.

Reference to the conjunctivitis caused by the Koch-Weekes and the Morax-Axenfeld bacilli is not necessary, as these bacilli have not been found in the nose and throat, although they are the most common cause of catarrhal and chronic conjunctivitis respectively. Other micro-organisms, however, play an important part in the production of identical conjunctival conditions, so that to classify them correctly a bacteriological examination is necessary.

Many children with chronic conjunctivitis and blepharitis, especially after an attack of one of the acute exanthems, also suffer from rhinitis with acrid discharge from the anterior nares, causing redness and swelling of the upper lip. Not infrequently there is an accompanying chronic otorrhoea and possibly impetigo contagiosa of the face. Careful inquiry shows that the conjunctival condition is secondary to the aural and nasal discharges; the infection is probably carried to the conjunctival sac by the child's fingers. The discharge of chronic otorrhoea always contains the *Diplococcus pneumoniae* and the *Streptococcus pyogenes;* it is interesting to note that the same micro-organisms may be found in the conjunctival and nasal discharges in the aforementioned class of case.

A satisfactory cure of the eye condition cannot be expected until the cause of nose and ear trouble has been thoroughly treated.

Croupous conjunctivitis — that is, conjunctivitis characterized by the formation of a membranous deposit—should suggest a bacteriological examination of the membrane, and a careful examination of the nose and pharynx for any membrane. A child may have a membranous rhinitis —always caused by the Klebs-Loeffler bacillus—without disturbance of health, which may prove to be the primary cause of the conjunctival condition; it must be confessed, however, that in diphtherial conjunctivitis the source of infection is most frequently obscure, and not related to a nasal or pharyngeal diphtheria.

Refractive Errors.

It is extremely common to meet with children suffering from the combined effects of an uncorrected refractive error and of the presence of post-nasal growths: the result is frequently deplorable; the general health and nervous system are much deranged. It is not always easy at once to apportion to each fault the amount of trouble it causes; some indication may be gathered in such a case by first removing the adenoids. There is a general improvement in health, and the child seems brighter and better able to understand when instructed; there is, however, little improvement in ability to concentrate, and the school report reads that the child is quick and intelligent, but inattentive, and unable to concentrate on his lessons.

If the refractive error be corrected before the adenoids are removed, the result is not always satisfactory, and symptoms of asthenopia continue. This is no doubt due to the involvement of the muscles of convergence in the general condition of myasthenia so common as a result of the presence of adenoids.

I am in the habit of examining the post-nasal space in all spectacle cases in children, and advise operation where the correction of refractive error does not give as satisfactory a result as might be anticipated.

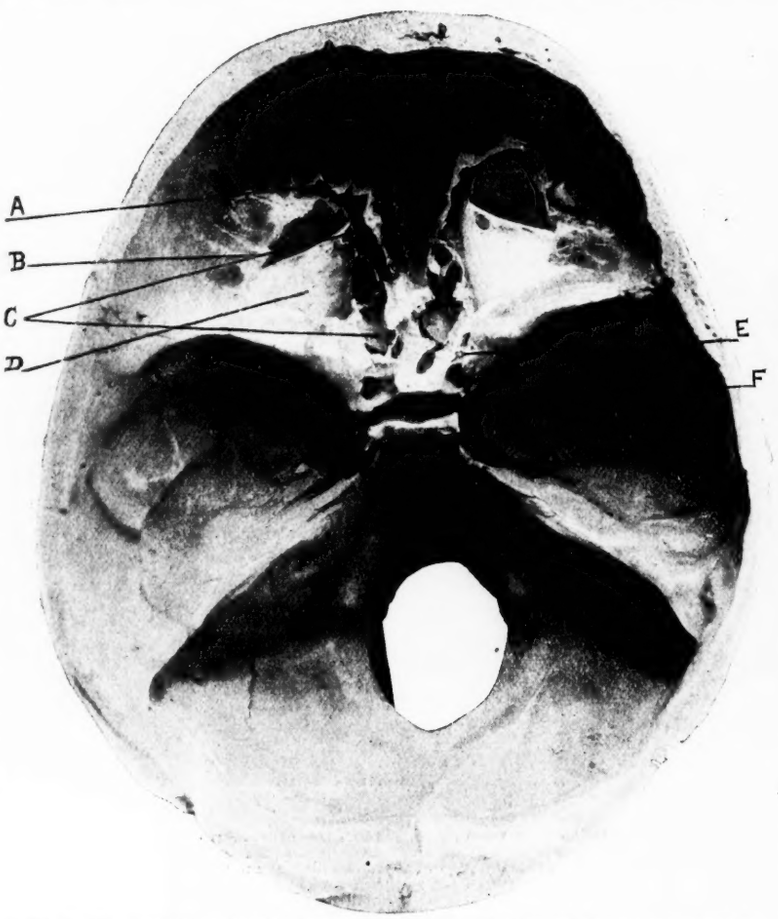

Fig. 2.—The roof of each orbit has been removed. The frontal sinuses are extensive both laterally and antero-posteriorly. The sphenoidal sinuses are small, and situated ventrally; the conformation of the sella turcica partly accounts for this. The cells opened up posteriorly are the ethmoid cells continued on to the body of the sphenoid. The very thin os planum is well indicated. A, Left frontal sinus. B, Floor of orbit. C, Ethmoidal cells. D, Os planum of ethmoid. E, Optic canal; note very thick wall between it and ethmoidal cells. F, Sella turcica, large and deep.

EYE AFFECTIONS CAUSED BY NASAL DISEASE.

In order to understand these affections, the anatomical relations of the orbital cavity must be made clear.

The orbit may be looked upon as an irregular pyramid, the apex of which is formed by the sphenoidal fissure and optic foramen. The roof, floor, and internal wall of the orbit are all in close contiguity to important structures.

The roof of the orbit, which is chiefly formed by the orbital plate of the frontal bone, is of variable thickness; the chief point of interest is the extent to which the frontal sinus may be continued posteriorly. In the dissection (Fig. 2) the length of the frontal sinuses antero-posteriorly was 2 cm. —that is, almost one-half the antero-posterior diameter of the orbit; the importance of this possibility will be pointed out later.

The inner wall of the orbit in the whole of its extent is in intimate relation with the nasal accessory sinuses, and separated from them for the most part by a thin plate of bone covered by periosteum.

Posteriorly, both the optic nerve and the contents of the sphenoidal fissure are in close relation to the sphenoidal sinus. (Fig. 1. Note the varying thickness of the bony partition.) In the dissection (Fig. 2) the optic nerve has no relation to the sphenoidal sinus, as the posterior ethmoidal cells intervene; this is one of many variations.

Immediately in front of the sphenoidal sinuses are the ethmoidal cells which form the body of the ethmoid bone; these, as shown in both Figs. 1 and 2, are only separated from the orbital cavity by the thin os planum, this may be wanting in parts, so that periosteum alone forms a partition. These cells are very variable in size and distribution; the posterior cells may extend backwards almost to

the optic foramen and occlude the nasal opening of the sphenoidal sinus; the anterior cells, as has been pointed out, may extend so far forwards as to come into intimate relation with the lacrymal sac and the infundibulum of the frontal sinus.

Not only are these cells in internal relation, they are also supero-internal, and may even be continued outwards into the roof of the orbit. I have in my possession a dissection in which the whole of the orbital plate of the frontal bone is a hollow wedge (orbito-ethmoid cell), continuous with the ethmoidal cells, and separated from the frontal sinus in front by a thin but intact partition; more remarkable still, the condition is symmetrical.

The frontal sinuses are very irregular in size, shape, and symmetry; from the ophthalmic point of view the chief interest is in its floor; in front this forms the roof of the orbit, and may extend backwards a considerable distance, so that the sinus forms a wedge between the orbit and the anterior cranial fossa.

Study of the two dissections, therefore, shows that there is a more or less continuous line of sinuses from the optic foramen posteriorly to the region of the external angular process of the frontal bone antero-externally.

The sphenoidal sinuses have received much attention of late years, on account of the difficulty of diagnosing their affections and of the various and apparently obscure eye symptoms these affections may produce. These sinuses are as irregular in their size, symmetry, and shape as are the frontal sinuses; the thickness of their walls varies from $\frac{1}{2}$ mm. to 2 or 3 mm. (Figs. 1 and 2). The nasal opening of the sinus is so situated as to be quite hidden from view both by anterior and posterior rhinoscopy.

The antrum of Highmore does not take as prominent a place in the etiology of orbital troubles as the other accessory sinuses. It is variable in size; its roof, which forms the floor of the orbit, is thicker than that of any of the other sinuses impinging on the orbit.

Mention has been made only of those anatomical points necessary for the understanding of subsequent remarks. Full details of the accessory sinuses and their irregularities may be obtained from various works on rhinology.[2]

Optic and Retro-bulbar Neuritis and Atrophy.

In cases of sudden loss of sight in one eye caused by retro-bulbar neuritis, or in unilateral optic neuritis where there is no evident or ordinary cause, suspicion must fall on the sphenoidal sinus. The inflammatory secretion may accumulate rapidly and be unable to find its way into the nose, consequently the intrasphenoidal pressure rises; pain may or may not be present. One can only speculate as to the mode of production of the neuritis; it may be due to the action of toxins or to the pressure of slight periostitis at the optic foramen, but probably it only occurs when the bony partition is very thin. Relief of the sinus tension followed by free irrigation and drainage results in rapid disappearance of the alarming eye symptoms.

No figures can be given as to the frequency of these ocular troubles in accessory sinus disease; in order to do so, the eye should be examined as a routine procedure in every case of sinusitis, for, as ophthalmic surgeons well know, definite neuritis may be present without any loss of visual acuity.

Proptosis and Diplopia.

These conditions are produced by the encroachment on the orbital contents of any growth or suppurative process. The most common cause is orbital cellulitis; this is produced by an invasion of micro-organisms from the nose by way of the ethmoidal cells; extension to the orbit may be by necrosis of the os planum in a chronic case, or by the line of least resistance being in the direction of the orbit in an acute case, possibly through absence of the bony partition.

Some of the chronic cases of ethmoiditis in strumous young adults are undoubtedly tuberculous; others are due to the pneumococcus alone or coupled with the *Streptococcus pyogenes;* the *Streptococcus pyogenes* alone is not common, nor are the staphylococci. Some indication of the origin of the cellulitis may be gathered from the position of necrosed bone felt on probing after the abscess has been opened. In cases due to chronic ethmoidal suppuration the diagnosis of the nasal condition presents no difficulty, but in the acute cases careful nasal inspection may be negative.

In order to prevent recurrence of the cellulitis the chronic ethmoiditis must be radically cured. A culture of the orbital pus or serum will probably reveal *Streptococcus pyogenes* and pneumococci combined. After opening and draining the orbital abscess the proptosis and diplopia gradually disappear.

Empyema of the antrum may cause similar symptoms, but is not nearly as common an etiological factor; the anatomical position of the antrum, the thickness of the partition between the two cavities, and the greater readiness with which the disease is diagnosed, all assist in protecting the orbit from invasion in this direction.

Other causes of diplopia and proptosis are invasion of the orbit by growths originating in the accessory sinuses, by mucocele of the frontal sinus, and occasionally by a chronic empyema of the frontal sinus.

The two latter conditions must be carefully distinguished. Mucocele is a retention of normal secretion which accumulates under pressure from occlusion of the infundibulum, and which cannot escape to the middle fossa; the fluid is glairy, viscid, and sterile. Chronic empyema is an infection of the sinus by nasal micro-organisms; as a rule drainage is free, and if there be some obstruction of the infundibulum the rise of intrasinus pressure quickly forces a passage into the nose; rarely the obstruction is so great that the symptoms usually ascribed to a mucocele result. The symptoms depend somewhat upon the extent to which the sinus is prolonged backwards; if it extends into the orbital plate of the frontal bone the first symptoms are deep, obscure frontal pain quickly followed by diplopia and the appearance of a hard swelling in the roof of the orbit. Such a swelling may be mistakenly diagnosed as an osteoma, a gumma, or a malignant growth, and as there is no complaint of nasal discharge or catarrh, a definite diagnosis may be very difficult; the swelling increases in size, and if the floor is thin eventually an egg-shell cracking may be detected. The following case is instructive:

A man, aged 37, consulted me for double vision of three weeks' duration. He complained of deep frontal pain, and had been treated with large doses of potassium iodide. On digital examination of the roof of the orbit a small hard swelling about the size of a hazel nut could be felt about 2 cm. from the orbital margin. It increased in size whilst under observation, as did the pain and diplopia. Examination of the nose showed complete occlusion of the infundibulum by a dense adhesion between the septum and the infundibular region, the result of an operation performed in Germany two years previously for a septal spur. This had been diagnosed as a gumma and a malignant growth, but it was undoubtedly a mucocele of the frontal sinus.

If the frontal sinus is small the swelling presents in the region of the trochlear fossa.

Iridocyclitis.

A certain proportion of cases of both acute and chronic iridocyclitis which cannot be ascribed to syphilis, tubercle, gout, or gonorrhoea, may be caused by septic processes in the mouth and nose.

Pyorrhoea alveolaris, or Rigg's disease, is undoubtedly a cause of some of these cases; the infection is staphyloccic. S. Mayou[3] has been able to demonstrate them in the anterior chamber. Two cases at present under my care, after being regarded successively as due to syphilis and tubercle by different oculists, eventually proved to be caused by the *Staphylococcus albus.*

Chronic empyema of nasal sinuses must not be forgotten as an etiological factor in this disease when all other possibilities have been excluded.

CONCLUSION.

In summing up, I would say that in every obscure eye case, especially where there is complaint of a long-standing nasal or post-nasal catarrh, the accessory sinuses should be examined by an expert, and, if diseased, they should be radically treated for the benefit of the eye trouble.

When operation on the eye is contemplated, not only should a careful examination be made of the condition of the conjunctiva, but the mouth and nose, with its diverticulum, the nasal duct and sac, should be examined. If pyorrhoea is present no operation should be entertained until the mouth is perfectly clean; even then the system

may be so permeated with staphylococcic toxins as to render the likelihood of an endogenous eye inflammation possible as the result of the traumatism of operation. The same remarks apply to atrophic rhinitis and chronic sinusitis.

The condition of the operator's mouth and nose must also be considered in this connexion; carious teeth, pyorrhoea, or nasal trouble, including acute coryza, should be looked upon as a possible source of infection, and precautions taken; speaking during the operation should be forbidden for obvious reasons. The bacteriology of post-operative inflammatory eye troubles indicates that the pneumococcus and staphylococcus play an important part; these micro-organisms are not frequently found in the conjunctival sac, but the mouth is a common habitat, hence the great likelihood of infection arising from the operator's or assistants' exhalations.

Mention must be made of blindness resulting from the onset of optic atrophy, caused by intranasal operations. Such cases are, of course, not frequent, but there are a number on record.

Perhaps the most common accident has been entry of the orbit when exploring the antrum of Highmore with a trocar or cannula, or in forcibly boring a hole in the alveolus of the superior maxilla, for drainage purposes; loss of control and the absence of a stop on the drill has resulted in puncture of the floor of the orbit and either injury to the optic nerve or infection of the orbital contents. Forcible removal of bony nasal spurs and of the middle turbinal bone may produce a fracture involving the optic canal, the formation of callus, pressure of the callus on the nerve, and subsequent atrophy.

I am much indebted to Sir William J. Collins for permission to make use of Case I and of a portion of the ophthalmic material on which this article is based.

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[1] Hewlett, *Manual of Bacteriology*. [2] Onodi, *Anatomy of the Accessory Sinuses*, translated by StClair Thomson; and Onodi, *The Optic Nerve and the Accessory Sinuses of the Nose*, translated by J. Luckhoff, M.D.; Watson Williams, *Rhinology*, 1910. [3] S. Mayou, *Ophthalmoscope*, August, 1908.

AN INTRANEURAL CYST OF THE EIGHTH CERVICAL NERVE.

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The patient in the following case, a lady, married, and aged 32, was first seen on November 1st, 1907. She complained of pain in the inner side of the left forearm and hand, which had been present for three weeks following an attack of "influenza." The pain was nearly continuous as a dull aching, with attacks of severe pain and tingling shooting to the little and ring fingers. It was aggravated by cold. The skin over the affected area was tender, so much so that the pressure of the wedding ring could not be tolerated.

State on Examination.

There was found to be marked wasting of both thenar and hypothenar eminences, and a little also of the interosseous spaces of the left hand. There was a slight amount of flattening of the flexor aspect of the ulnar side of the forearm.

The movements of the fingers were good, but the thumb could only be abducted, adducted, and opposed to the fingers weakly and imperfectly. The hand was slightly colder than the other. The objective sensory changes consisted of marked increase of painful sensation over the palmar and dorsal surfaces of the little and ring fingers, and ulnar half of the hand up to the level of the wrist-joint.

The pupils were natural, and radial pulses equal. On the left side of the neck, beneath the lower part of the sterno-mastoid muscle, could be felt a swelling, which was too deeply placed to admit of accurate definition, but which seemed to be fixed to the deep structures in the neighbourhood of the transverse process of the seventh cervical vertebra and neck of the first rib.

Initial Diagnosis.

A diagnosis of cervical rib was made, although the distribution of the sensory changes was not quite typical. For, in cervical rib, the objective sensory change is commonly anaesthesia over the first dorsal area, or over the first dorsal and eighth cervical areas combined; whereas, in this case, the changes were confined to the eighth cervical area.

The patient was not aware of the weakness and wasting of the hand, but on further careful inquiry it became clear that for many years—almost as long as she could remember—there had been some difficulty in picking up and holding objects in the left hand. This could be traced back with certainty to the age of 14—namely, eighteen years. It further transpired that for two or three years past pain had occasionally been felt along the ulnar side of the forearm and hand, which had been treated as "neuritis."

Final Diagnosis.

A skiagram was taken by Dr. Harrison Orton which showed no cervical rib but a definite circumscribed shadow at the root of the neck extending downwards behind the clavicle. Electrical testing of the muscles showed no reaction in the abductor and opponens pollicis, partial reaction of degeneration in the remaining short muscles of the thumb, those of the little finger, the interossei and the flexor sublimis digitorum.

During the next week the swelling above the clavicle increased in size so as to cause visible asymmetry of the neck.

It seemed evident that the swelling affected the eighth cervical nerve above the brachial plexus; that it was of many years' standing; that it had recently begun to increase in size rapidly; it was feared that it might prove to be a sarcoma originating in an old neuro-fibroma.

Mr. Butlin was consulted and agreed with the general diagnosis; he advised an early operation, which he performed on November 19th, 1907.

Operation.

The brachial plexus and third part of the subclavian artery were exposed by a V-shaped incision carried downwards over the posterior border of the sterno-mastoid and outwards above the clavicle. The lowest of the three primary cords of the brachial plexus was identified, and on tracing it inwards a thin-walled, tense cystic swelling was found extending downwards behind the scalenus anticus over the first rib. The cyst was punctured and some clear fluid and a little mucoid material escaped. A small portion of the cyst wall was excised and a fresh section immediately cut by Mr. E. H. Shaw, who found the structure to be fibrous tissue only. His report in full appears at the end of this communication.

On dissecting out the cyst, which was about 2 in. in length, it was found to be in the course of the eighth cervical nerve, which apparently ran into it close to the intervertebral foramen, and issued from it at the point of junction with the first dorsal trunk. No nerve fibres could be detected in the cyst wall microscopically at the time of operation. The cyst was removed, the nerve being divided on either side of it, and the ends sutured together with catgut. The wound was then closed with fine silk sutures.

After-Progress.

Union took place by first intention, and immediate recovery was uneventful; there was some pain in the whole limb for the first few days, and considerable hyperaesthesia of the hand and forearm for eight or nine weeks, which prevented thorough massage and electrical treatment being carried out. During this time also there was an area of solid oedema which extended from 2 in. above the wrist-joint down to the middle of the palm, fairly sharply defined above and below and limited to the anterior aspect. The subjective sensory symptoms gradually passed off and definite eighth cervical anaesthesia remained; the movements of all the digits were much impaired, all the intrinsic muscles of the hand being paralysed. The *main-en-griffe* position was marked, hyperextension of the proximal phalanges being slightly less in the index and middle fingers than in the others. Massage and electrical treatment were employed regularly, and a splint used to correct the deformity of the hand.

On July 22nd, 1908, electrical testing of the muscles of the upper limb was carried out by Dr. Harrison Orton, and showed complete loss of reaction in the flexor sublimis digitorum and all the intrinsic muscles of the hand. No qualitative changes were observed in any other muscles of the limb, but in the flexor carpi ulnaris the contractions were decidedly feeble. The anaesthesia remained as before, the whole hand showing signs of malnutrition—namely, cold, shiny, congested skin, roughness of the nails, etc.

Result.

Since that time much improvement has taken place in the appearance and general usefulness of the hand, though the electrical reactions when tested in January, 1910, remained unaltered, nor is there any return of voluntary power to the affected muscles. There was no return of sensation over the eighth cervical area for more than a year after operation, but it has now been completely regained, together with the nutrition of the skin.

Remarks.

The chief points of interest in the case which have led me to publish it are:

1. The situation of the nerve lesion, marking the distribution of the anterior primary division of the eighth cervical nerve.

2. The transformation of the nerve trunk into a cyst.

Mr. Thomas Bryant,[1] in a lecture delivered before the Royal College of Surgeons in 1888, mentioned two cases of cystic tumours of nerve.

The first is described as a cystic tumour of the size of half a hazel nut, which was enucleated from the sheath of the median nerve above the anterior annular ligament. This swelling had given rise to pain over the distribution of the median nerve in the hand.

The second case is that of a cystic tumour within the sheath of the upper cord of the brachial plexus, which caused pain chiefly over the distribution of the musculo-spiral nerve; removal of the swelling was followed by recovery. Mr. Goodheart reported that it seemed to be a blood cyst. This specimen is preserved in the museum of Guy's Hospital, and appears to be a fibrous-walled cyst containing blood clot.

A remarkable case of multiple neuro-fibromata affecting the nerves both within and external to the spinal canal, some of the tumours being cystic, is recorded in the *Transactions* of the Medico-Chirurgical Society by Mr. Septimus Sibley.[2] The largest of the many tumours was situated upon the anterior crural nerve, the capsule being continuous with the sheath of the nerve. "On section the tumour presented the appearance of a fibro-cellular tumour interspersed with cysts, the fibrous portion being chiefly collected in one part, and the cystic portion in another. All the smaller cysts were filled with clear serous fluid, the cysts being formed by a thin, smooth fibrous wall. The largest cyst was nearly filled with partly organized blood clot. A second cyst, the size of a walnut, was filled with yellowish gelatinous or colloid substance." This specimen is preserved in the museum of Middlesex Hospital.

In the museum of St. Bartholomew's Hospital is a specimen which was obtained from the dissecting room, and consists of a portion of the inferior articular branch of the external popliteal nerve, which shows two small thin-walled cysts in the course of the nerve.

In the case of the cervical nerve cyst recorded above, although examination of the specimen does not give any definite indication of its origin, it seems probable that the cyst arose from a fibro-neuroma which had been present for many years before undergoing cystic change. The examples quoted seem to show that such a condition does occur.

My thanks are due to Mr. Butlin for his kind help and for his permission to publish this case.

REPORT BY MR. E. H. SHAW.

The specimen consists of a unilocular ovoid cyst measuring 2½ in. in its vertical length by 1 in. in transverse diameter. Its wall is thin and composed of strong fibrous tissue; it is strengthened in places by rather thick plaques, which fade gradually away on to the thinner parts of the wall. The inner surface is smooth and pale, like an ordinary endothelial surface. The outer aspect of the cyst wall is composed of loose connective tissue, and numerous blood vessels are seen traversing its surface. A nerve is seen at the upper part of the specimen; it gives off a number of small branches which spread out and soon become incorporated with the outer part of the cyst wall; the remainder of the nerve passes on and becomes lost in the lower part of the wall.

Microscopic sections were made of various parts of the cyst wall. One through a thickened patch reveals dense fibrous tissue arranged in irregular wavy lines with very few cells; it reminds one of the appearances presented by the cornea and the thickened patches seen on the spleen in perisplenitis. No lining of endothelial or other cells is visible; the outer part of the wall is composed of loose fibrous tissue containing numerous blood vessels and many spindle cells. Several small nerve bundles are also seen.

Another section of the lowest part of the cyst wall shows an inner dense fibrous layer, much thinner than the first part, and an outer layer of fibrous tissue thickly packed with spindle and oval cells. Several nerves are seen surrounded by these cells, and are cut in various planes. Many large blood vessels are present in both parts of the wall, and in several places collections of blood pigment are visible—old blood extravasations.

In a third section the separation into inner dense fibrous tissue and outer loose fibrous tissue is not so abrupt, and many more spindle-shaped cells are seen in the inner part. Several flattened cells can also be seen on the internal surface; these are evidently endothelial in character.

Origin of the Cyst.

It is difficult to prove whether the cyst is due to dilatation of connective tissue lymphatic spaces in one of the nerves or to the same change occurring in the neighbourhood of the nerve and implicating it by extension and pressure. The close relationship existing between the cyst wall and the surrounding nerves, seen both macroscopically and microscopically, suggests strongly that it has arisen in the connective tissue of a nerve.

On the other hand, lymphatic cysts do occur in the neck, and it is possible for such a cyst to cause trouble by pressure on the adjoining nerves. These cysts, however, are usually multiple, occur in young people, and may become very large and numerous without involving the nerves. A third possibility is a cystic change occurring in a fibro-neuroma; there is no macroscopic tumour remains in this specimen, but the presence of the numerous spindle-shaped cells in the second section might lend support to this suggestion.

REFERENCES.

[1] *Lancet*, 1888, vol. i, p. 1232. [2] *Med.-Chir. Soc. Trans.*, vol. xlix, p. 39.

TRACHEOTOMY DURING THE ADMINISTRATION OF NITROUS OXIDE GAS.

BY

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THE following incident occurred during a dental operation upon a patient, a man aged 24, who was suffering from multiple osteo-arthritis. Most of the larger joints were markedly affected, including both mandibular joints to such an extent that the teeth could be separated only by about one-third of an inch. The teeth were in a very bad condition, with the exception of a few in the front of the lower jaw they were all decayed to the gum level. It was thought advisable in the treatment of his condition that all these stumps should be removed, and the mouth put in as healthy a state as possible.

Nitrous oxide was administered for this purpose, the intention being to remove the more accessible stumps towards the front of the mouth on the first occasion so that, at a subsequent administration, those at the back could be more easily removed. Previously to the administration it was found that, although the free passage of air through the mouth was somewhat limited by the fixation of the lower jaw, nasal respiration was perfectly free.

Anaesthesia was induced in a normal manner by the nasal method, and one root had been removed when slight cyanosis was noticed, which continued to increase in spite of the admission of air. The administration was at once discontinued, but respiration ceased entirely. The mouth was opened with a Mason's gag, and the tongue drawn forward; no obvious obstruction could be felt by the finger in the pharynx, which was sponged out, large quantities of very viscid mucus being present.

The patient was placed on the floor and artificial respiration performed, but it was obvious that there was laryngeal obstruction, as no air passed into the chest; therefore tracheotomy was immediately performed and artificial respiration continued, air passing freely through the opening through which oxygen was administered. After a very few compressions of the chest natural respiration was resumed, the patient's colour rapidly improved, and he soon recovered consciousness.

In view of the condition of affairs, the problem of the removal of the teeth was solved by administering chloroform next day through the tracheotomy tube, the pharynx being plugged with a sponge; after all the stumps had been removed, the tracheotomy wound was closed, and the patient made an uninterrupted recovery.

The interesting feature of the case was that although the mouth was opened, the tongue drawn forward, and the pharynx sponged out, complete laryngeal obstruction persisted, which appeared to be due to congestion of the tissues around the epiglottis, the tongue and neighbouring soft parts being much swollen; immediately the asphyxial symptoms were relieved by tracheotomy, the swelling subsided, and the patient could breathe through the natural passages.

WE observe that at Whitehaven, as on the occasion of nearly all mining disasters, the medical profession played its usual but commonly unrecognized part, Dr. C. J. J. Harris of Whitehaven being mentioned among those who formed the first rescue party to descend. The accident, besides being one of the worst on record in point of loss of life, has not even the advantage of affording any hint, apparently, as to how mining operations may be rendered ess perilous. When a mine catches fire all ordinary aids o rescue work are set at nought, and while the dangers a tending it are greatly increased the chances of material success are reduced to a minimum.

PRELIMINARY NOTE ON THE PREPARATION OF THE SKIN FOR OPERATION BY MEANS OF DICHLORIDE OF ETHYLENE AND IODINE.

BY ARTHUR J. WALLACE, M.D.,
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I CALLED attention recently[1] to the use of iodine acetone for preparing the skin prior to operation. Last year v. Herff of Basel described[2] the results of the use of acetone only, but as the latter possesses very feeble bactericidal powers, I combined its advantages with those of iodine. The iodine acetone solution was found by Dr. Leith Murray to be more strongly bactericidal than an equivalent iodine alcohol solution. Unfortunately solutions of iodine in alcohol or acetone give off pungent, irritating odours, and when a large area of skin is painted with such a solution, the atmosphere of the room becomes well-nigh intolerable for the time, and nurses who apply the solution complain of lacrymation, coryza, etc., often of an intense kind.

I regarded the good results obtained from acetone as being due mainly to its power of dissolving fats, and set out to discover some solvent of fats and iodine free from the objection mentioned. Whilst engaged on this search, Dr. W. McQ. Brunton of Runcorn drew my attention to the commercial fat solvents manufactured by the Weston Chemical Company. These solvents are derivatives of ethane and ethylene; they are clear liquids of a detergent nature; most of them are non-inflammable and non-combustible; they are powerful solvents of fats and resins, miscible with alcohol but not with water. In each instance the addition of iodine results in a violet-coloured liquid which in bulk has a black appearance. In four instances (the tetrachloride and pentachloride of ethane, the trichloride and perchloride of ethylene) the odour is decidedly pungent; and in the case of the first-named iodine is recognizable.

In the case of the dichloride of ethylene there is only a faint aromatic odour without trace of iodine, even when the solution is painted over a considerable area.

Dichloride of ethylene ($C_2H_2Cl_2$) is a clear mobile liquid, specific gravity 1.25, boiling point 55° C. (The boiling points of the other preparations are much higher—usually over 100° C.) It is non-explosive, but its vapour burns slowly with a smoky flame. It has an immense capacity for dissolving fats and greases, practically double that of acetone. It mixes readily with alcohol, and a mixture of equal parts can absorb water in small quantities. Dr. G. Koller, of the Weston Chemical Company, informs me the dichloride can dissolve 2·48 per cent. of iodine, the trichloride coming second with 1.71 per cent. He assures me further that the addition of iodine to the dichloride results in a solution, for the absence of iodine odour had inclined me to suspect that chemical combination had taken place. This point is not of importance, because in practical use the results are identical with those given by iodine-acetone.

When painted on the skin, temporary mild tingling or pricking sensations are produced, and, as the violet liquid quickly dries, the light brown iodine stain appears. The following method of skin preparation is pursued:

1. Immediately—a few minutes to an hour—before operation: swabbing with sterile swabs saturated with a mixture of equal parts of dichloride and alcohol (methylated spirit).

2. Swabbing with sterile swabs saturated with pure dichloride.

3. Painting with iodine-dichloride-ethylene ("I·D·E") solution (2.48 per cent.).

4. Application and fixation of sterile lint over prepared area.

The only odour given off is a mildly aromatic one that does not produce any unpleasant effects on bystanders. Those in whom other iodine solutions produce lacrymation, etc., can with impunity apply I·D·E solution. The iodine stain has a lighter hue than that produced by other solutions, and it disappears more quickly and without causing irritation or dermatitis. In operative—chiefly abdominal—work the results have been uniformly excellent.

NOTE.—Ethylene dichloride is made by the Weston Chemical Company, Weston Point, Runcorn. In bulk it costs about 9d. per lb., or less than half the price of acetone. It is stored in metal vessels, and solutions should be kept in dark blue glass bottles, stored in dark cupboards, as exposure to light for any length of time leads to the appearance of traces of HCl.

REFERENCES.
[1] *Practitioner*, April, 1910, p. 501. [2] v. Herff, *Deut. med. Woch.*, 1909, No. 10, p. 425; G. Koller, The Chlorine Derivatives of Ethane and Ethylene and their Industrial Importance as Non-inflammable, Non-combustible, and Non-explosive Solvents: Seventh International Congress of Applied Chemistry, London, 1909.

A CASE OF EXOPHTHALMIC GOITRE CURED BY OPERATION.

BY F. P. STURM, CH.B.ABERD.,
LEIGH, LANCS.

THE following case affords such an excellent example of what surgery can do for otherwise hopeless conditions of exophthalmic goitre that no excuse is needed for putting it upon record:

In October, 1908, I was asked by Dr. F. E. Wynne to see an advanced case of Graves's disease. The patient was an unmarried lady aged 32. Two years previously she had suffered from palpitation, anaemia, and swelling of the ankles. These symptoms had not responded to treatment, and in six months from the commencement of her illness she presented all the symptoms of well-marked Graves's disease.

When I saw her she had a moderately large bilateral goitre. The neck measurement was 20 in. There was a loud bruit and a well-developed thrill over the tumour, a murmur of dilatation at the apex of the heart, and an irregular pulse, which fluctuated between 120 and 140. There were fine tremors of the hands and very definite exophthalmos. Her ankles were oedematous, there was profound anaemia, and her general condition was bad. She complained of nervousness, palpitation, inability to do any work, and breathlessness upon the slightest exertion. She had attacks of profuse sweating, which were always accompanied by an extremely offensive and penetrating odour. The diagnosis of exophthalmic goitre made by her medical attendant had been confirmed by an eminent consulting physician, who furthermore gave an extremely grave prognosis. Practically every known plan of medical treatment had been tried without success. She had been kept in bed for months at a time, and had swallowed large amounts of thyroidectin, not to mention antithyroid serum and the usual drugs, but without any permanent benefit. As she expressed her eagerness to undertake no matter what risk in the hope of even partial relief, I advised operation.

Operation.

Upon October 30th, 1908, I removed the right lobe of the thyroid tumour under local anaesthesia. The right lobe was chosen because it appeared to be the larger and more vascular, and because it had the louder bruit and the more marked thrill. The operation was a difficult one, involving much haemorrhage and deep dissection. The wound healed by first intention except at the point of insertion of the drainage tube, through which much colloid material escaped during the first five days. Recovery from the operation was uneventful. The temperature never rose above normal. Within a week the pulse had dropped to 80. Within a month the tremors had disappeared and the exophthalmos had improved. Exophthalmos has been the last symptom to disappear.

Present Condition.

Seventeen months have elapsed since the operation, and all symptoms of Graves's disease have disappeared. There are no tremors except after unusual exertion; there is no dyspnoea; there is no exophthalmos, and the pulse remains steady at 80. The patient is able to be on her feet from morning to night, and has recently applied for, and obtained, a position in a teaching institution. She eats well, sleeps well, and is never troubled either by palpitation or nervousness. The only relic of her former condition is the almost invisible scar of the incision in the neck.

During the past two years I have performed thyroidectomy in 5 cases of well-marked Graves's disease. Each of these cases presented the classical symptoms, namely, exophthalmos, tachycardia, fine tremors, and goitre, and in all the diagnosis had been confirmed by independent observers. Of these 5 cases the one recorded above has been completely relieved of every symptom. Three other cases declare themselves cured, but of these three all have still slight exophthalmos, and two have occasional attacks of tachycardia. The remaining case was a woman, aged 33, who had been married eight years and was childless. No symptoms remained six months after operation. I then lost sight of her, but her medical attendant, Dr. G. H. Shaw, tells me that she subsequently became pregnant, was delivered at term, and within a few weeks of her confinement died of acute pulmonary tuberculosis.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

OSSIFICATION IN THE BRACHIALIS ANTICUS FOLLOWING INJURY TO THE ELBOW.

I WAS much interested on reading (BRITISH MEDICAL JOURNAL, April 16th, p. 920) Mr. Tyson's report of his case of ossification in the brachialis anticus, as I was then in communication with Sir Alfred Fripp respecting a similar injury.

The notes of my case are as follows: A lady of middle age at the end of last January was at a skating rink with roller skates on when she fell on to the palm of her left hand, the left arm being extended behind her back. She experienced great pain at the elbow, and with much difficulty got to her feet. As she was not at home she did not see a medical man until next morning, when the pain and swelling forced her to do so. No fracture was detected; the arm was put in a sling and evaporating lotions applied to the elbow.

I saw her on her return home at the end of February; there was then a large hard swelling in the bend of the elbow which felt like bone; the arm could not be flexed to reach the mouth, nor extended as usual.

No definite improvement taking place, she saw Sir Alfred Fripp the second week in April; *x* rays then showed no recent fracture, but only an ill-defined blurred mass in front of the elbow-joint. At an operation on April 21st Sir Alfred Fripp found the lower ends of the biceps and brachialis anticus pushed forwards; it was in the lower end of the latter muscle that the ossification had taken place, and about one-third in thickness of its posterior surface had to be removed. It was a tedious business, as there was no possibility of shelling the mass out, and the bone had to be removed piece by piece with bone forceps, two large pieces the size of walnuts being detached, besides many smaller pieces. On completion of the operation the arm could be flexed so as almost to reach the mouth.

The speedy onset of ossification after injury in this case makes it interesting, more especially as to its final outcome.

Haslemere. WILLIAM A. ARDAGH, M.D., B.Ch.

ARTIFICIAL RESPIRATION IN NEWBORN INFANTS.

THE article on artificial respiration in newborn infants, published in the JOURNAL of May 14th, p. 1194, incites me to report the following case. It is one which I venture to think afforded an extremely severe test of the method of artificial respiration employed.

Mrs. T. was delivered of twins, no skilled attendant being present. The first child was separated, cried lustily, and was put on one side as usual. The second child was born *en masse* with the placenta, without rupture of the second bag of membranes, there being one placenta with two cords and two separate bags.

The attendant, thinking the whole mass was after-birth, put it in a slipper-pan, and laid it aside. There it remained until the medical attendant arrived, a period of forty-five minutes at least. (This time has been most carefully verified.) The child (male) was then removed from the bag, and showed some extremely feeble signs of circulation. Artificial respiration induced natural breathing in about half an hour. The child is now 3 months old, and has doubled his weight at birth.

The point of interest in this case is the time during which the infant survived, namely, forty-five minutes. Probably five or ten minutes would generally be considered the limit.

Dr. Leonard Hill has kindly furnished me with the following facts which bear upon the case: Newborn kittens and puppies can be recovered by artificial respiration after submersion for as long a period as thirty to forty-five minutes. A curarized dog's heart will beat for forty-five minutes after cessation of artificial respiration. Guthrie has transplanted a dog's head on to a dog's carcass, stitching artery to artery and vein to vein, and has seen eye reflexes re-established on setting going the cerebral circulation after nearly thirty minutes' interruption.

My own suggestion in this particular case is that the long survival of the child was due to the fact that by chance the maternal surface of the placenta was exposed to the air as it lay in the pan, and that this afforded an opportunity for a small amount of oxygen to enter the fetal circulation. In support of this theory I quote the following sentence from an article in the *Encyclopaedia Medica:*

> In the middle of last century it was a common practice to lay the placenta on the child's belly, and last year Stringer recommends the exposure of the placenta to the air as the rational treatment of asphyxia.

The method of artificial respiration I employed was that of applying the lips to the mouth of the infant, only a handkerchief intervening, and "blowing up" the lungs, then compressing the chest with the hand, and so on. No doubt a good deal of inflation of the stomach takes place, but this is easily expelled, and serves the useful purpose of clearing the pharynx of mucus, etc.

When blowing, the operator must be prepared to receive a rather unpleasant mouthful down the infant's nostrils, but after one or two blows the nose should be gently compressed, in order to prevent the air escaping by that route.

One great advantage of this method is that it can be carried out whilst the infant is immersed in warm water, and another is that the hand grasping the chest can feel a definite and highly satisfactory expansion at each "blow," and one is not left in doubt as to whether air enters or not. Further, there is no fear of injury to the child's shoulder joints or neck muscles by over-vigorous stretching.

I always employ this method and believe it to be superior to any other. It is so simple, so easily performed, and so obvious that it must be resorted to by many midwives, and I think their experiences would be of great interest.

Loughton. B. F. PENDRED, M.R.C.S., L.R.C.P.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL SURREY COUNTY HOSPITAL, GUILDFORD.

A MULTILOCULAR CYST OF THE OMENTUM.

(Reported by ALEX. H. GIFFORD, M.R.C.S., L.R.C.P.Lond., House-Surgeon.)

A BOY, aged 6 years, was brought complaining of swelling of the abdomen, which had been noticed for about six months, and which for the last few days had been very painful when he stooped forward. The pain was felt in the umbilical and hypogastric regions, and had no relation to the taking of food. It was constantly present though varying in intensity; there was no vomiting, and the bowels were costive. He passed urine freely and without pain. The urine has always been clear, and of normal colour and appearance.

Condition on Admission.

The child was healthy, well nourished, and intelligent; the heart and lungs were normal. The abdomen was distended towards the middle but less in the flanks, which did not bulge. The abdomen was tight, with a sense of fluctuation, and on percussion dullness was detected above the pubes reaching to a level three fingerbreadths above the umbilicus with deep resonance. In the flanks there was also deep resonance with superficial dullness, though the latter was not so pronounced as in the median parts. No free fluid could be detected in the abdomen. A catheter was passed, but only 2 oz. of urine were drawn off; the swelling of the abdomen was undiminished. Its circumferential measurement at the level of the umbilicus was 24 in., varying $\frac{1}{4}$ in. more or less at intervals of a few days. Digital examination by the rectum revealed nothing abnormal. The urine was amber coloured, neutral, 1004; there was no albumen, no pus, and no blood in it.

Operation.

On March 4th median laparotomy was performed; an incision was made for 3 in. below the umbilicus; healthy intestines, uncovered by omentum, presented; the peritoneum was quite healthy, and there was no fluid. On passing the hand upwards the fingers were arrested by adhesions extending from the abdominal wall to a cystic swelling about the size of a cocoanut. The adhesions were broken down, and a cyst in the substance of the omentum freed; the incision was enlarged for 3 in. above the level of the umbilicus, and the cyst partially tapped; the omentum was then ligatured and divided, and the cyst with the surrounding omentum easily removed. The abdomen was then closed. The cyst was multilocular, lined with a smooth membrane, and contained a clear straw-coloured fluid. The measurement of the abdomen at the level of the umbilicus after the operation was 20 in.

Remarks.

The diagnosis in this case was difficult and diverse, though the opinion that the condition was cystic was more or less universal. When the patient was lying in the prone position the appearance and signs resembled those of an ovarian cyst. Bladder conditions were ruled out. Encysted tuberculous cysts were suggested, and I find on reference to Rose and Carless's *Manual of Surgery* (Chapter XXXII) the statement that in tuberculous peritonitis a cyst is occasionally formed by the effusion being shut up by adhesions between coils of intestine; in this case, however, there was no studding of the peritoneum with tubercles, no free ascites, and no flakes of fibrin, and the cystic condition was confined to the great omentum. Had the exact condition been known before operation, raising of the pelvis would probably have made an interesting change in the physical signs.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

STAFFORDSHIRE BRANCH.

Wolverhampton, April 28th, 1910.

Dr. W. G. LOWE, President, in the Chair.

Sarcoma Treated with Coley's Fluid.

MR. DEANESLY showed a case of sarcoma of the lower end of the femur successfully treated by Coley's fluid.

The patient was a girl aged 11 years, admitted to the Wolverhampton General Hospital on August 25th, 1909, and discharged on January 9th, 1910. The treatment was begun on September 10th and discontinued on December 13th. On admission the child had the typical features of a sarcoma of the lower end of the thigh—namely, a spheroidal elastic enlargement of the lower end of the femur measuring 15 in. in circumference, and covered with enlarged veins. A radiograph showed uniform circumscribed enlargement of the bone and absence of implication of the knee-joint. Exploratory puncture produced only blood. The knee-joint was flexed, the muscles contracted and somewhat wasted. There was general emaciation. After one month's daily treatment, accompanied by a high febrile reaction, the emaciation was extreme, and a large fluid swelling surrounded the growth. This gradually became absorbed. At the end of three months' treatment great improvement and gain of weight began, and thenceforward increased rapidly.

At the present time the general health was excellent, full use of the limb had been regained, and the tumour was represented by a hard bony mass about one-half the original size.

Graves's Disease.

Dr. CODD showed a case of Graves's disease treated with *x* rays. He was sent to him by Dr. Malet, with a history of four years. M., aged 31, very large goitre measuring 19 in. round neck, right side much larger than left, marked thrill. Exophthalmos, Graefe and Joffroy's signs, pulse 100, marked erythrism, felt quite unfit for work. Tried to wear 18 in. collar, but would not go round and had to use flannel collar. Had *x* rays ten minutes—1 milliampère daily for a month, three times a week for two months, then weekly for three months; most of the applications had been given to the right lobe. At the end of that time the right side was almost the same size as the left, and had become very much flatter, the neck measured 16¾ in., pulse 68, erythrism quite gone, and the patient was able to work as well as he ever did. The 18 in. collar he at first could not wear now fitted him very loosely, and he had had to take to a smaller size; he could lean forward without the feeling of choking which he experienced at first. There was still the exophthalmos, Graefe and Joffroy's signs. This case was but a type of other cases treated by him in the same manner, many of them with similar results, but others not so favourable. The chief factor of success in this case had been the pertinacity with which he had continued the treatment. It had taken a long time, but it had to be remembered that he had not lost an hour of time at his work.

X Rays in Favus.

Dr. CODD showed a case of favus, and also some coloured stereographs taken when the treatment begun. The whole of the scalp was covered with the yellow scabs filling the favus cups. Even when these scabs were removed as much as possible, there were very few small patches of unaffected scalp seen. The treatment had been applications of *x* rays given about three times a week, but the patient attended very irregularly. Hydrogen peroxide was ordered to be applied twice a day to the whole surface and the scabs to be removed as effectually as possible daily. No internal treatment. The disease was now not quite cured owing to the very great irregularity in his attendance, but there were only a very few foveae left, and there was no doubt that a few more applications would clear it up, though some permanent alopecia must be expected. Yet some of the areas that had been cured showed an unexpected growth of hair considering the vigour of the treatment.

Papers.

Dr. MARTIN read a paper on infant feeding. Drs. DEANESLY, EDGE, and LOWE discussed the paper. Dr. EDGE read a paper on the ureter in hysterectomy.

Pathological Specimens.

Mr. DEANESLY exhibited: (1) *Five specimens of chronic gastric ulcer* which had been removed by free excision followed by suture of the stomach. The largest measured 2 in. in diameter, and had completely eroded the posterior wall of the stomach, being fixed to the pancreas by firm fibrous adhesions. In removing it a complete division of the stomach was made and a segment removed involving about one-fourth of its length. The functional result in all cases shown was perfect up to the present time, but longer time would be required to test the permanence of the cure. (2) *A carcinomatous rectum completely removed by the combined abdomino-perineal method.* Although the disease was so advanced as to be thought inoperable by the physician who transferred the case, the patient, a man of 42, had made a complete recovery, with complete control over the sphincter ani, which was preserved. (3) *A cancerous caecum*, removed, with the whole of the ascending colon, from a man of 50. The operation was begun by dividing the ileum close to the caecum and implanting its proximal end into the sigmoid flexure. The large bowel was then removed up to the commencement of the transverse colon, the divided end of which was inverted and closed. The patient recovered, and had regained his normal weight and appetite. Dr. LOWE showed a specimen from a *Popliteal aneurysm* which had been operated on many years before—it was shrunken and obliterated. Dr. CHOLMELY showed a piece of drainage tube encrusted with salts removed from a kidney.

UNDER the will of the late Sir Frederick Thorpe Mappin of Sheffield, the University of Sheffield and the Royal Infirmary, Royal Hospital, and Jessop Hospital for Women, all in that city, each receive a bequest of £1,000.

ALL dispensaries, hospitals, creches, camps, asylums, homes, and nurseries in Chicago keeping or caring for children under 2 years of age are now required to report to the Department of Health twice a year, on June 1st and September 1st, on forms furnished for that purpose, particulars as to (1) facilities for (*a*) sterilizing diapers, (*b*) excluding flies, (*c*) segregating cases of diarrhoea; (2) source of milk supply; and (3) measures used to protect against venereal disease.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, May 23rd, 1910.

SAMUEL WEST, M.D., F.R.C.P. (President), in the Chair.

The Annual Oration.

MR. WILLIAM H. BATTLE delivered the annual oration, taking as his title, Internal Injuries (Abdominal). In the course of his remarks he pointed out that rupture of the spleen was mostly met with in malarious districts, where it was so commonly diseased; it might also occur during an attack of typhoid fever. In this country it was most commonly the result of severe injury, and none of the recorded cases had been ruptures of diseased spleens, so far as could be ascertained by the naked eye. In one instance, which Dr. Wheen had found in medical literature, there was evidence of disease of the blood on examination. They could not enter much into a consideration of the rupture of the diseased spleen, for although it would be interesting, it would be chiefly so from a medico-legal point of view. Much of interest on the subject could be found in papers by Dr. D. G. Crawford in the *Indian Medical Gazette*, 1902 and 1906. Some of the accounts given by those in charge of hospitals in tropical countries, or by those in charge of hospitals where patients were admitted from malarious districts, were quite startling. A patient with a large spleen "turned in bed," was playfully "dug in the ribs" by a jocular friend, some one threw a tiny missile at him, or flicked him with a cane, and death ensued in a period of time measured by minutes. Playfair gave seven to eight minutes as the average duration of life after rupture of a malarial spleen, and the late Surgeon-General Coull-MacKenzie said that 68.9 per cent. of his cases died under half an hour. If the abdomen were examined after death, it was found to be flooded with blood, as if the sac of an aneurysm of the abdominal aorta had burst into the peritoneum. There was rarely time for more than a guess as to the cause of the symptoms—none for treatment. Rarely was the rupture of a malarial spleen survived even for a few days. Dr. White-Hopkins, who spent some years in Sarawak, had kindly permitted him to show them a weapon which he (Mr. Battle) called the "lethal cross," but the real name of it was "larang" (meaning forbidden) in the Malay language. It was used by the Chinese only in Southern China, and generally in the Malayan countries and islands, Malay States, Java, Sumatra, Celibes, etc. The weapon was not known in Northern China for the reason that an enlarged spleen was not so plentiful as in the southern or tropical portion. It was made of iron, with a cross-piece, the ends of which turned towards the point. The blunt end terminated in a nut, which gave it a knobbed appearance. The longer part beyond the cross was carried up the sleeve, so that the deadly blow was struck by the shorter and thicker end. It was carried with the shaft up the arm of a long sleeve, clutched between the second and third fingers at the cross, leaving the knob extending. It could not be seen, in consequence of the sleeve. The Chinaman waited for his victim at night, and, accosting him, dealt him a sudden and unexpected blow in the abdomen, and was not particular as to the position in which he struck. The victim, without a groan, fell dead on the spot. His pockets were rifled, and nothing more was known of his assailant. From Dr. White-Hopkins's experience in Sarawak, an enlarged spleen amongst the Chinese was found in about 90 per cent. He would go further and say that every Chinaman had an enlarged spleen. But the ratio of enlargement would be as follows: The whole of the abdomen involved with a hard nodulous enlargement would be 60 per cent., perhaps more; a partial enlargement occupying three-quarters of the abdomen would be about 25 per cent., and the remainder from a half to a quarter enlargement. Mr. Battle went on to say that if a Chinaman was found with a larang upon him he was at once tried and imprisoned, because it was known what intention he had. It was rarely found except in a case of intoxication, or the finding of a Chinaman in close proximity to a dead man. Rupture of a normal spleen was found as the result of considerable violence, and was met with clinically under two conditions. From its position under the shelter of the ribs, where it was well guarded in the adult, it was a comparatively rare injury. It was not surprising to find that amongst the published cases there was an unduly large proportion of children, nearly all of whom were "run over" in the streets. It was formerly held that there must be adhesions between the spleen and diaphragm before rupture could take place, but that theory had been frequently disproved in recent years. Every rupture of the organ was not fatal; healed cicatrices had been found during necropsies by Ayres, Neville Jackson, and D'Arcy Power. There were some cases in which life was said to have been much prolonged after the injury, but unfortunately the condition of the abdomen as given in the report did not always carry conviction that the diagnosis was correct. Statistics were therefore of little value, but Edler computed the mortality at 82.3 per cent. in the uncomplicated cases. The symptoms produced by the injury might be immediate and alarming, or they might be delayed in their development. Barrallier summed them up in the following words: "péritonisme," "l'hémorrhagie," "syncope," but probably referred to the rupture of a normal spleen. The amount of shock varied very considerably when a healthy spleen had been ruptured, and did not help in the diagnosis, but the speaker was rather inclined to think it greater when the spleen rather than the liver had been ruptured, unless the laceration of the latter was deep or extensive. There might be no local evidence of contusion, but if the injury was to the splenic region, more especially if the overlying ribs were broken, then the great probability was that the spleen had been torn. Pain might be severe, but on the other hand it might be absent, and there might even be no tenderness. The chief reliance must be placed on the presence of blood in the peritoneal cavity soon after an injury, and the general effect of the loss of that blood on the patient. It was strange that in so many of the recorded examples of rupture of the spleen there was no statement as to the presence or absence of dullness in the abdomen during the progress of the case, or in fact any note to show that those in charge were aware of the very large accumulations of blood which were revealed at the *post-mortem* examinations. In one or two cases in which operation was performed abroad it was stated that there was no dullness, and a paragraph or so later on that a great deal of blood escaped when the peritoneum was incised. In ruptured spleen there was the shifting dullness of the effused blood, whilst the immediate neighbourhood of that organ was occupied by a clot which gave the impression of an increase in size. All those cases should be closely observed, and frequently examined, and operation performed if there were rapid increase of the effusion. Many of the successful cases had presented a less urgent group of symptoms, there being apparently a smaller amount of intraperitoneal haemorrhage at the commencement, but occasional recurrences during the following days, by any one of which the state of the patient might be rendered precarious. The clotting of the blood in and around the laceration appeared to close the vessels for a time, but secondary haemorrhage had been known to prove fatal three weeks after the accident. If the patient survived and no relief was afforded during the first day or two, to the other abdominal signs and those depending on loss of blood were not infrequently added increasing distension, vomiting, pain, restlessness, and other symptoms of peritonitis. It was advisable in those cases to remove the spleen and empty the peritoneum of the blood which had invaded it, through an incision over the left upper abdomen. Tamponage was sometimes useful, but with such a vascular organ, efficient pressure might produce sloughing. In one case, the notes of which were read before the Clinical Society, that of a big heavy man, where the spleen was very adherent to the diaphragm, the speaker passed a ligature round the splenic vessels and so arrested the haemorrhage. Saline infusion was most useful in that case, but the patient only survived the operation four days. Dr. Wheen had tabulated the successful cases of excision for that injury done by British surgeons, and it was interesting to find that a recent President of their Society, Mr. C. A. Ballance, not only obtained the first operative success, but had the credit of 3 out of the 23 recoveries which had been published in this

country. It was worthy of note that in the cases of ruptured spleen during the course of typhoid fever, operation had mostly been performed for supposed perforation of the small intestine. A laparotomy of the lower abdomen was first performed, and then a second incision made over the spleen.

THE ROYAL SOCIETY.

Thursday, May 5th, 1910.

Mr. A. B. KEMPE, Treasurer and Vice-President, in the Chair.

Development of Trypanosomes in Tsetse Flies.

COLONEL SIR DAVID BRUCE, C.B., F.R.S., A.M.S.; Captains A. E. HAMERTON, D.S.O., and H. R. BATEMAN, R.A.M.C.; and Captain F. P. MACKIE, I.M.S. (Sleeping Sickness Commission of the Royal Society, 1908–9), contributed a paper on the development of trypanosomes in tsetse flies. Until the end of 1908 it was believed that tsetse flies acted merely as mechanical agents in the transference of trypanosome diseases. The parasite was supposed to be carried by the fly in the same way that vaccine lymph is carried on the point of a lancet from one child's arm to another. The limit of time of infectivity of the fly was placed at forty-eight hours, and it was believed that if an infected area were emptied of its sleeping sickness inhabitants for a couple of days it would then be quite safe for healthy persons to enter it. At the end of 1908 Kleine made the discovery that a tsetse fly could convey a trypanosome for some fifty days after the fly had fed on an infected animal. The experiments were carried out on these lines in Uganda. Both lake-shore and laboratory-bred flies (*Glossina palpalis*) were used, and various trypanosome diseases besides sleeping sickness were experimented with. Tsetse flies are numerous on the lake-shore, 500 or more being caught every day by a few fly-boys. The flies brought up from the lake-shore were found to be naturally infected with at least two species of pathogenic trypanosomes, so that it was afterwards found necessary to use flies bred in the laboratory from pupae gathered on the lake-shore. At first it was difficult to find these pupae, but after some time the supply was more than sufficient, as many as 7,000 being brought up in one day by a few natives. These experiments go to show that a late development of trypanosomes takes place in about 5 per cent. of the flies used. This development of trypanosomes in the inside of a fly renders the fly infective and capable of giving the disease to the animals it feeds on. The shortest time which elapsed before a fly became infective after feeding on an animal infected with sleeping sickness was 18 days, the longest 53 days, and the average 34 days. An infected fly has been kept alive in the laboratory for 75 days, and remained infective during that time. It is not known how long the tsetse fly may live under natural conditions on the lake-shore. Experiments made to test directly the duration of the infectivity of tsetse flies show that they can retain their infectivity for at least two years after the native population has been removed from the fly area.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, May 11th, 1910.

Dr. F. W. N. HAULTAIN, President, in the Chair.

Suprapubic Fascial Incisions.

PROFESSOR KYNOCH, in a communication on suprapubic fascial incisions in gynaecological coeliotomy, described Pfannenstiel's transverse incision as a slightly curved incision two or two and a half inches above the symphysis pubis, and passing through the skin, subcutaneous tissue, and the anterior layer of the sheaths of the recti abdominis. The muscles themselves, he said, were separated or divided vertically, and the peritoneum opened. The advantages claimed for the incision were: No gaping of skin wound; no division of motor nerves, and, in consequence, no muscular atrophy, and less risk of hernia. The only chance of hernia was at the place at which the transverse and vertical incisions crossed. This spot should always be strengthened by a special stitch. The patient might be allowed up sooner than after the vertical incision, and might sit up on the third or fourth day—a matter of importance in the aged and feeble. All oozing should be guarded against by ligation of the vessels and not merely crushing or twisting with forceps. A flat sandbag, weighing 6 to 9 lb., might be placed over the dressing. This transverse fascial incision was contraindicated in septic cases. The speaker had employed the incision for five years in the removal of ovarian cysts of moderate size, small fibroid tumours, and early ectopic gestations, and in ventrisuspension. Dr. BARBOUR said that if more room was required during the operation, it was difficult to obtain it with the transverse incision. If a small opening was sufficient, then the diminished risk of hernia was in favour of the transverse incision. Dr. FORDYCE said he had once had very troublesome sepsis after a transverse fascial incision, and this had discouraged him in its use. To keep the wound sufficiently open during the operation a special retractor was required, and it was a great disadvantage to have each of the four edges guarded by a rigid bar of metal. Hernia was a rare occurrence after the median incision if it was stitched up in layers. The cases in which it was likely to arise were those done in a hurry, and stitched up with through-and-through sutures. The PRESIDENT had one or two objections to Pfannenstiel's incision; the chief was the hampering of movements. The wound could not be enlarged with any freedom, and if ovarian cysts were taken out entire, as they ought to be, a very large opening was usually required. There was no objection to a large vertical incision. It healed as well as a small one. The cases of hernia which he had seen occurred in small wounds when the surgeon had tried to do too much through too small a space; then bruising of the tissues and impairment of healing took place. He still adhered to the through-and-through suture. If suppuration did occur, the removal of an individual stitch was possible, and got rid of the septic seton. He still advised his patients to wear a belt for six to nine months. Professor KYNOCH, in reply, said that the transverse fascial incision was almost universally used in Continental clinics. Originally it was recommended by Pfannenstiel for small tumours, but he had recently seen many large tumours removed. For such, however, he considered the vertical incision preferable. The transverse incision was bad if suppuration occurred.

Infection of the Urinary Tract.

Dr. NAPIER BURNETT, in a communication on *B. coli* infection of the urinary tract complicating pregnancy, said from failure to recognize it this affection was passing from the domain of the obstetrician to that of the surgeon. It ought to be taught that it was a complication of pregnancy. These infections might occur any time after the fourth month of pregnancy, and were most frequent in primiparae. They fell into two groups according as bladder symptoms were present or absent. The symptoms were usually of acute abdominal disease, and the most constant area of tenderness was in the costo-vertebral angle. The ureter might be thickened and palpable per vaginam. At first the temperature might be intermittent as in malaria, but later, when the kidney tissue or the other urinary tract became affected, it remained persistently above normal. The urine had not a fishy odour, as described by some authorities, and no faecal or ammoniacal odour. The reaction was acid if the *Bacillus coli* was present in pure culture. The examination of the blood showed a secondary anaemia with a leucocytosis; the bacillus was rarely to be isolated from it. Acute cases were marked by rigors and increasing toxaemia; the chronic were characterized by pain and tenderness over the kidney, headaches, and general ill-health. Slight cases were often overlooked, or diagnosed as recurrent lumbago. If mixed infection occurred, the attack might be very severe. The condition was to be differentiated from acute cholecystitis, which might also be present, appendicitis, and intestinal obstruction, malaria, right-sided pleurisy, and pneumonia, renal and ureteral calculus. Regarding its etiology there were two ideas: (1) That it was an ascending infection, and (2) that it was haematogenous. The attacks had been said to be due to a pre-existing bacilluria plus the supervention of retention, or to mechanical obstruction. Most cases were right-sided at first—a fact which favoured the theory that they were caused by pressure of the axially rotated uterus. But more probably infection was due to a

direct lymphatic spread of the bacilli from the ascending colon, especially if the right kidney was mobile, and occasional kinking of the ureter occurred. The best treatment was by alkalis in large doses—potassium bicarbonate, acetate and citrate. Urotropin and helmitol had little effect except in cases of mixed infection. Serum treatment had been unsatisfactory, but the vaccine treatment was often good, especially if autogenous. Douching of the renal pelvis with 1 per cent. silver nitrate through a ureteral catheter pushed to the upper end of the ureter was of great service. In severe cases nephrotomy might be done, but it was better to interrupt the pregnancy even although there was a risk of infecting a big raw surface. The PRESIDENT said his experiences in the vaccine treatment of obstinate cases of *Bacillus coli* cystitis had been most encouraging. Dr. BARBOUR believed there was nothing in the pressure theory of these conditions. The author had seemed of the same opinion, yet he advocated the termination of the pregnancy. Dr. CHURCH had had one case of so-called neurasthenia in a woman between 50 and 60, which turned out to be an infection with the *Bacillus coli*. It persisted for years. Dr. FORDYCE had had a case in which the diagnosis between appendicitis, pneumonia, and *Bacillus coli* infection was difficult. After labour at full time the symptoms subsided. The *B. coli* was often present in the urine without giving rise to symptoms. Dr. BURNETT, in reply, said that vaccines had no effect in lessening bacilluria, hence he washed out the bladder in such cases, though it was contrary to Wright's teaching. As to its frequency in pregnancy, it might be that the bacilluria was pre-existent, but was only revealed in pregnancy. Many patients with neurasthenic symptoms had the *Bacillus coli* in the urine. In a *post-mortem* examination of a woman who had died in late pregnancy, he had found a dilated right ureter and pelvis, which was suggestive of pressure by the uterus. The dose of alkalis had to be large—40 to 60 or even 120 grains every two hours.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Tuesday, May 10th, 1910.

W. WARD-SMITH, F.R.C.S., President, in the Chair.

MR. T. WILTON THEW, in a paper on oral sepsis from a dentist's point of view, said that it was a subject demanding the combined attention of both doctor and dentist. One of the chief things to be considered in connexion with it as regards children was the question of diet. It should be of such a character as to leave the mouth physiologically clean and healthy. After some teeth had appeared the food should be such as would demand the use of the teeth by including substances of a hard and fibrous nature. Apples, crust, and even bone were excellent things to scour the teeth and jaws and help to develop the bones and muscles of mastication. Dental caries was the principal cause of oral sepsis in children, and the importance of having temporary teeth filled, and filled early, could not be exaggerated, because the smaller the decayed spot the easier and more satisfactory it was to fill. Permanent teeth were more likely to be preserved if they were in a mouth which was clean and free from caries. Decayed temporary teeth very readily produced alveolar abscesses. The first permanent molar (six-year-old molar) was very apt to decay and caused the acutest suffering. In adults the study of oral sepsis was largely the study of pyorrhoea alveolaris. There was a chronic progressive destruction of the tooth socket, generally accompanied by the formation of pus. The cause was irritation of the gum margin, long continued and incessant. The deposit of tartar round the necks of the teeth was the usual form of irritation. No specific micro-organism had been discovered. The disease was accompanied by systemic symptoms, the chief of which were anaemic and various intestinal disorders. Vaccine treatment was still *sub judice*, and so far had not given very satisfactory results. The principal point in the treatment was the removal of the tartar, and required care and patience. After scaling, a dental atomizer should be used with hydrogen peroxide. The teeth should be brushed with a simple chalk tooth-powder night and morning and after every meal. Systematic massage of the jaws must be carried out. For advanced cases there was only one cure—extraction. Dr. BRONNER pointed out that oral sepsis was very closely connected with diseases of the nose and throat, especially otorrhoea and antrum disease. Dr. WOOD did not agree with feeding children on hard substances, and asked why it was that dentists had such an aversion to extracting teeth when an alveolar abscess had formed. Dr. WARD-SMITH said that from his experience at the Children's Hospital the number of children with septic mouths was appalling.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Tuesday, May 24th, 1910.

J. MITCHELL BRUCE, M.D., F.R.C.P., President, in the Chair.

Examination of the Excreta in Pancreatic Disease.

DR. CAMMIDGE described the results of the analysis of over 1,500 specimens of urine from 1,475 cases, including pancreatitis, pancreatic calculi, cysts, infantilism, and cancer. The conclusion advanced was that, while the "pancreatic" reaction in the urine was not pathognomonic, its presence was strongly suggestive of active degenerative changes in the pancreas, and, when taken in conjunction with the history, symptoms, and an analysis of the faeces, the findings were of considerable clinical value. Clinical experience and the results of experiments pointed to the reaction being due to the destruction of substances with a glyco-nucleo-proteid content, and, since the pancreas contained nearly five times as much pentose as any other organ of the body, and it was more loosely combined than the corresponding sugar in other tissues, the reaction was obtained with much greater frequency, and more constantly in lesions involving degenerative changes of that organ than in others. The affections that were likely to give rise to a positive reaction were usually so readily differentiated from pancreatic disease clinically, and by an examination of the faeces, that there was little or no risk of confusion. No reaction was obtained in most affections in which the pancreas was not involved, also in quiescent cirrhosis of the gland, some cases of pancreatic calculi and cysts, and in 67 per cent. of cases of cancer of the pancreas, since in these there was no active degeneration of the gland substance to set free the glyco-nucleo-proteid content of the cells, unless there was also a secondary inflammatory change due to pressure effects or obstruction of the duct. In the diagnosis of diseases of the pancreas a qualitative and quantitative analysis of the faeces was of great value, not only as indicating the presence of disease but also as suggesting its nature and probable cause. The chief points to be noticed were the reaction, microscopical examination for fat globules, fatty acid crystals, and undigested muscle fibres, the percentage of unabsorbed fat, the relation between the saponified and unsaponified fats, the percentage of inorganic ash, the presence or absence of hydrobilirubin, and the constant presence of occult blood. Dr. H. D. ROLLESTON thought the test of much value in cases in which the diagnosis was either very difficult or apparently impossible by ordinary clinical methods—for instance, in the differentiation of calculus of the common duct from cancer of the head of the pancreas. The operation of draining the gall bladder was, however, by no means always necessary in chronic pancreatitis. Dr. A. C. HERTZ suggested that it might be desirable to give a special diet before analysing the dejecta. Dr. CAMMIDGE replied.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, May 11th, 1910.

Lieutenant-Colonel R. H. S. SAWYER in the Chair.

THIS was a clinical meeting, the exhibits including two cases of disseminated sclerosis shown by Major W. S. HARRISON, who also read notes of a case of primary spastic paraplegia. He remarked that the cases were interesting from two points of view: First, that two of the patients dated their illness from an attack of enteric fever, and, secondly, as showing how very varied the symptoms of disseminated sclerosis might be. A case of congenital acholuric icterus was shown by Lieutenant G. H. DIVE. The chief points to which attention was directed were variability in the depth of the jaundice, splenomegaly, oligocythaemia, anisocytosis, diminished mean diameter of the red cells, absence of bile in the urine, and its presence in the faeces.

Reviews.

THE POOR-LAW COMMISSION.

A COURSE of nine lectures on various points in the Reports of the Royal Commission on the Poor Laws was arranged by a committee which included representatives of the Sheffield and the Eccleshall Boards of Guardians and various voluntary associations. The committee obtained as lecturers some of the leading exponents of all sides of the subject, including the Rev. L. R. Phelps of Oxford and Mr. F. H. Bentham of Bradford, signatories of the Majority Report; the Dean of Norwich and Mrs. Sidney Webb, signatories of the Minority Report; Dr. McVail, Dr. Marion Phillips, and Mr. R. H. Tawney, investigators for the Commission; Mr. H. J. Manton of Birmingham, a guardian of wide experience; and Dr. Bosanquet, husband of Mrs. Bosanquet who signed the Majority Report. The lectures have now been published,[1] and a brief review of them will be useful in showing the opinions that have been expressed by persons especially qualified to speak on the subject.

The Dean of Norwich deals with "the Poor Law Commission and the able-bodied." He first summarizes what has been done during the last seventy years, describing the workhouse test, the labour yard, and municipal employment. He thinks that "the danger that menaces our national greatness is want of grit in our citizens" and the ready way in which the able-bodied who come under the Poor Law "get on the slippery slope leading from self-respect to a flabby acceptance of the assistance of the State, giving nothing in return." The Minority's methods for dealing with the unemployed are discussed, and the kernel of their proposals is said to be "that they aim at getting rid of the causes of unemployment and not merely at relieving the unemployed when destitute."

Mr. R. H. Tawney, B.A., deals specially with "boy labour in its relation to unemployment." He shows what a large proportion of boys on leaving school enter employments which are often actually demoralizing and frequently lead to nothing better. The remedy for the evils of boy labour he sees in an extension of the period of education. He would abolish the half-time system, extend the school age to 15, prohibit the employment of boys between 15 and 18 for over thirty hours a week, and make attendance at a continuation school for thirty hours a week compulsory on all youths under 18 not receiving education in some other way.

Mrs. Sidney Webb lectured on "the prevention of destitution." She begins with a picture of "a morass of destitution," with the Poor Law on one side and charity on the other side, neither of them doing anything to prevent people falling into the morass, and doing nothing to drain the morass. The peculiarity of the Poor Law is that it cannot touch those in need until they hold out their hands for relief, while "the charitable agency picks people out of the morass very gingerly, looks at them from top to bottom, asks them by what road they came down to the morass, inquires how they spent their time at the top of the road before they came down, and, if it does not like their tale, gingerly puts them back into the morass, and tells them to hold up their hand to the Poor Law." She next points out six roads down which people slip into this morass—the roads of neglected infancy, neglected childhood, preventable sickness, feeble-mindedness, old age, and unemployment. The methods are then described which the Minority recommend for dealing with each of these roads to destitution, and we read that "the Minority Report asserts in all seriousness that the prevention, in fact the abolition, of destitution is now as practicable as the abolition of slavery was a hundred years ago."

The Rev. L. R. Phelps follows with an admirable lecture on "the relations of Poor Law and charity." He says the Poor Law is always poaching on the domain of charity and charity is always straying into the field of the Poor Law, and the first thing needed is to keep Poor Law out of charity and charity out of the Poor Law. He advocates the pooling of charities in larger areas, acting on the doctrine of *cy-pres*—"a doctrine which permits the application of funds to a purpose within reasonable distance of the founder's." He would also systematize the methods of charity by linking up various charitable agencies, and further "we (the Majority) propose that all cases should in the first instance be referred to a charitable agency, and only when the application or the treatment has failed should they be handed over to the State; charity should act as a sieve, through which all the grain should pass, leaving the chaff to be treated by the State." This by no means implies that all persons treated by the State are undeserving. He then describes the functions of the proposed reorganized "Charities Commission," and the work that is to be assigned to the Voluntary Aid Councils, and he claims support for the Majority Report on the ground that it endeavours "to reduce to order and utility the vast floating mass of charity in the country and impress it to the service of the community."

Mr. H. J. Manton deals with the "break-up of the Poor Law." He holds that the evidence gathered by the Commission is interesting and informing, but "the conclusions and recommendations appear to me to be of no great administrative value." He says that the Poor Law system has not been properly used, and, without destroying its *ad hoc* origin, it would still be able, if properly used, to do all that modern society rightly demands. He opposes both the Majority and the Minority when they recommend new machinery, and he objects to the condemnation of machinery which, if it were not so persistently braked and retarded, would be capable of all the service that the community requires. He strongly criticizes Mrs. Webb's statements, and says that "she either ignores altogether or with apparent wilfulness belittles the work" done by the guardians. His own experience shows that even the present work of education committees is too complex without giving them more, that municipal authorities are already overlapping, and unless the health committees soon divide up their present work among different committees the machinery of the health department will soon break down. He believes that the system of officialism proposed by the Minority is "not only impracticable but socially mischievous," while the Majority is equally condemned for substituting a selected authority in lieu of an elected one, and he hopes that the Government will attempt to adapt existing machinery.

Mr. F. H. Bentham speaks of "the reports of the Commission from the point of view of an administrator." He holds that the "break-up of the Poor Law" can only mean the break-up of its administration and distribution of its work to other authorities. He is as anxious to abolish pauperism as any one, but thinks it can be accomplished to a far greater extent by an *ad hoc* authority. "We must not run away with the idea that by distribution of services among different committees, what is pauperism in essence will not be pauperism because of such a change." What the Majority aims at is "a policy of remedial assistance tending towards self-maintenance and the discouragement of self-made dependence." He lays stress on the little interest that is taken in elections of guardians, and says that a directly elected *ad hoc* authority can only be advocated so long as the results are satisfactory. As for the charge that the Public Assistance Authority of the Majority is undemocratic, he denies that it is undemocratic that a popularly elected body like a county council should be allowed to select its best citizens to administer a particular branch of public service. Rather he thinks the proposal of the Minority is undemocratic, as the placing of the administration of home aliment "in the hands of a peripatetic official is an absolute withdrawal of this branch—the largest branch of public assistance—from popular control."

Dr. McVail's lecture on the "medical treatment of the poor" has already been given in full in the JOURNAL for February 26th.

Miss Marion Phillips, D.Sc., dealt with "the condition of children on outdoor relief." At any one time in the year there are about a quarter of a million children in the

[1] *Royal Commission on the Poor Laws.* A Course of Nine Lectures on the Report of the Commission, delivered in Sheffield during the winter of 1909-10, with a Preface by Dr. H. Scurfield, M.O.H. for Sheffield. Reprints from the *Sheffield Weekly Times*. Published by Sir W. C. Leng and Co., Sheffield. (Pp. 56. Price 4d., or 20s. per hundred.)

hands of the Poor Law, and about 70 per cent. of these are on out relief. It is shown how the present method of dealing with the children of widows has most unfortunate results, the visits of the relieving officers being rather to see that the family is not receiving too much than to make sure that it has enough. The lecturer holds that the Minority scheme would remove all the difficulty by removing the Poor Law and placing out-relief children under the Education Committee.

Dr. Bosanquet's lecture on "the art of public assistance" is a most excellent presentation of the underlying principles of the Majority Report. He finds fault with the Minority proposal to entrust relief of destitution to committees which are specialists only in other matters. Ill health, for instance, might well be entrusted to the Health Committee, but when there is ill health *plus* necessitousness the problem is the whole care of the individual and often of his family as well, and this is not work that belongs to doctors or to health visitors; it is the peculiar work of public assistance. On the other hand, the Majority plan is a Public Assistance Authority in co-operation with all specialists that are needed. The true analogy for the problem is that of the head of a household who may employ doctors, schoolmasters, architects, sanitary engineers, and so on, for the good life of his family, but does not entrust it to any one of these experts. The first point of the Majority is that there must be a single general authority, and the second point is that it must be a new authority, as it is agreed that "the guardians must go." The essential character of the Public Assistance Authority is then described and the parallel organization of the Voluntary Aid Councils. Attention is drawn to the fact that in deference to criticism the importance of the Registrar in the Minority scheme has been lessened, and greater importance is now given to the General Purposes Committee, under which the Registrar is placed. This committee will now really be a public assistance committee, and will go a long way towards the Majority idea. Referring to medical assistance, a strong plea is urged for the provident system, arranged so that poor people should have their own doctor, whom they choose and pay, just as the rich do. He says that the public ear has been captivated by the plausible argument of the Minority in favour of letting loose their special committees to proffer material aid whenever they think it wanted, without waiting for application, on the ground that prevention is better than cure. "The Minority poses before the public as advocating prevention of the causes of destitution, and suggests that their opponents confine themselves to proposals for cure, whereas the facts are precisely the opposite." He thinks the Minority misunderstands the nature of prevention, and limits its field by confining it to the agencies concerned with cure—that is, to the same authorities to whom the whole work of public assistance is entrusted, such as the health and education committees. "This weakens preventive arrangements, because all public assistance means public control, which involves forcing a mode of life, which people are very likely to resent and try to evade." Moreover, the Minority are reckless of injuring the great friendly societies and the provident medical work of the wage earners, and a great part of the enormous preventive movement of the nineteenth century is ignored. The Majority, on the other hand, welcomes all the social movements of the age, such as the "development of insurance, which we hope will extend to invalidity and unemployment." He thinks that a necessary condition of the effectiveness of measures of prevention is to keep them apart from maintenance relief; "what is wanted, in short, for effective and universal prevention is just to avoid marrying preventive agencies and public assistance agencies; preventive services are for the normal citizen, to be used at his discretion (except so far as the common law may prescribe certain conditions for all citizens without exception), whereas public assistance is for the weak or unsuccessful—to restore or develop their capacity and prevent recurrence of failure in the future."

From the above summaries some idea may be formed of the wide field covered by the nine lectures. Most of the main principles of the two reports are discussed by experts, and the pamphlet ought to be of great use in any consideration of the various subjects.

TEXTBOOKS OF PHYSIOLOGY.

PROFESSOR HOWELL of the Johns Hopkins University has brought out the third and a thoroughly revised edition of his *Textbook of Physiology*.[2] The deserved success of this admirably written work is shown by the fact that the third edition has been called for within two years of the second. In this time there has been a wealth of contributions to knowledge, and no one, says the author, "could claim to have winnowed all of this extensive field." The metaphor is consistently agricultural, but nevertheless slightly mixed. In the second edition most of the changes introduced were the results of the extensive application of chemical methods of research. In the present edition the new facts added are a consequence as much of improvements in the methods of physical physiology as in the use of chemical methods. Thus in more than one place evidence obtained by Einthoven's string galvanometer is used effectively to modify older opinions. Fig. 22 is a record, obtained by Piper, of the vibrations of the string during voluntary contraction of the flexor muscle of the fingers. Each oscillation is due to an electrical oscillation in the muscle (action current). These oscillations occur at the rate of about 50 a second, indicating that a voluntary contraction is in this case a tetanus composed of 50 single contractions a second; the deltoid muscle gives 58 to 62; the calf muscles 38 to 44; the masseter 88 to 100. Assuming that these figures represent the rate of discharge of nerve impulses per second by the motor nerve cells, it is evident that the various spinal and cranial motor centres possess widely different rhythms, although the rate is more or less fixed for each centre. Fig. 48 is "a string" record, obtained by Judin, of the electrical variations in the frog's gastrocnemius during a simple contraction. Here are to be seen two variations—the first a quick extensive change in potential, which occurs during the latent period, and marks probably the passage of the wave of excitation; the second, a slower wave accompanying the process of shortening. Piper has used "the string" to determine the velocity of the nerve impulse, recording not the contraction but the action current of the muscles of the thumb when the median nerve was stimulated first at the axilla and then at the elbow. The velocity indicated was 117 to 125 m. per second. In dealing with "the string" records of the heart beat (electro-cardiogram) we miss any reference to the interesting and seemingly conclusive analysis of the electric variation obtained recently by Professor Gotch with the capillary electrometer, an analysis which shows without question that the action current passes from base to apex and finally strongly to base, where the contractile force expels the blood into the great arteries. Much is going to be gained in the immediate future by the study of electro-cardiograms of "heart" cases, as the pages of the new journal, *Heart*, show. In dealing with the record of heart volume, we note a figure of a cardiometer made of a rubber ball and tambour, and ascribed to Henderson (1906), which was made by Leonard Hill and the late Harold Barnard, and used by them in various researches some years ago. A well-written and adequate account of the jugular pulse with Mackenzie records is added to the section on the circulation. In the section on the central nervous system we miss any reference to the trenchant criticisms by Marie of Broca's localization of aphasia—criticisms which are backed up by Monakow in the *Ergebnisse der Physiologie*: most of us have given up teaching the old orthodox doctrine of localization of motor aphasia in the third frontal convolution. On page 212, line 6 from the bottom, dealing with the connexions of the auditory fibres, "inferior colliculus of the median and internal geniculate," "of" obviously should read "and." To the chapter on reproduction Professor Howell has added an account of the very interesting observations and speculations of Rubner on the subject of growth. Rubner finds that during the first period of growth the total amount of energy necessary for maintenance of growth, as expressed by the heat value of the food consumed, is the same for all mammals except man. To form 1 kilogram of animal weight requires roughly 4,800 calories in food, while for man about six times this amount is needed. In all the mammals considered, except man,

[2] *A Textbook of Physiology*. Third edition. By Professor W. H. Howell. London: W. B. Saunders and Co. 1909. (Med. 8vo, pp. 998; 296 figures. 18s.)

the same fractional part of the entire food energy is utilized for growth. This "growth quotient" averages 34 per cent. of the food calories. In man it is only 5 per cent. The "growth quotient" is a specific property of the cell and characteristic of youthfulness. It has its maximal value at birth so far as concerns extrauterine life, and sinks slowly till it reaches zero at maturity. Older naturalists conceived that the duration of mature life might represent a definite multiple of the period of youth. Rubner finds no evidence of this, but calculating the energy value in food required for each kilogram of body weight from maturity to the end of life, he finds while the mammalia require 191,600 calories, each human kilogram requires 725,770 calories. Thus the human cell is characterized by its much greater capacity for obtaining energy from the foodstuffs. The capacity of assimilation finally languishes and expires, and death means that the somatic protoplasm is capable of effecting only a limited number of transformations. In man a greater number is possible than in other mammals. Among the latter the number is practically the same, but in the smaller ones, with a more intense metabolism, the series is completed in a shorter time. Rubner suggests that the injurious by-products which accompany simple metabolism in the living matter are in some way neutralized by growth changes, and thus the processes of growth contain the very source of the maintenance of life. On this basis Rubner suggests, somewhat after Darwin's theory of pangenesis and Weissmann's theory of the cause of death, that the body cells give off certain molecular complexes which are necessary to the growth processes, and that these complexes are taken up by the reproductive cells. Thus the individual is depleted of the power of growth, and senescence and death become inevitable.

Professor RENÉ DU BOIS-REYMOND has been called on to re-edit his textbook of physiology, *Physiologie des Menschen und der Säugthiere*[3] within two years of the first edition, which shows its popularity, in spite of its many competitors in Germany. This textbook has inherited an old-established position, as Professor du Bois-Reymond took over the production of the well-known textbook of Immanuel Munk. The textbook is a correct but uninspiring statement of the conventional doctrine of physiology, and not to be compared with the inspiriting and suggestive treatment of Professor Howell. How little attention the author gives to English work is shown by the obsolete chart of the localization of the brain, which is contrary to the work of Sherrington on the higher apes. There is nothing in this textbook which merits the attention of English students.

A textbook of human physiology[4] edited by two such distinguished workers as Professors N. ZUNTZ and A. LOEWY ought to be of value, and we are on the whole not disappointed with their compilation. They have obtained the co-operation of Professor R. du Bois-Reymond, of Berlin, who deals as a first hand authority with the mechanics of bodily movement and respiration; Professors Elenberger and Scheunert, of Dresden, who treat of the digestive organs; Professor Exner, of Vienna, who is responsible for the section on the central nervous system; Professor Johansson, of Stockholm, who gives a condensed but admirable account of the chemistry of breathing; Professor A. Kreidl, of Vienna, who writes as a master of the physiology of audition and the production of the voice and speech and also tackles the physiology of the peripheral nervous system; the late Professor O. Langendorff, who deals with the physiology of the circulation, and this to us is the least inspiring and most scholastic article in the book; Professor Metzner, of Basle, to whom is allotted the discussion of the internal and the cutaneous secretions; Professor Joh. Müller, of Rostock, who deals with the chemistry of the body, and the morphology and chemistry of the blood; Professor W. Nagel, who discusses the physiology of the lower senses; Professor H. Schenk, of Marburg, who treats of vision; Professor Spiro, of Strassburg, who deals with resorption and assimilation and the lymph; Professor Verworn, of Göttingen, who is chosen, of course, to give the general physiological introduction; Professor O. Weiss, of Königsberg, to whom is allotted the section on muscle-nerve physiology. In the above list we have omitted Professor Cohnheim, who treats of the urine and its secretion; Professor Zuntz himself, who gives a masterly account of metabolism; and Professor A. Loewy, who provides an interesting chapter on generation and growth. The textbook is written for students, and gives a condensed account in some 750 pages of the present position of each section of physiology as conceived by the several experts engaged. The work of English physiologists, as usual, does not receive the attention that it deserves. Thus we note that the alveolar air tensions are reckoned from the expired air after deducing the dead space, and not by the direct method of Haldane and Priestly. The old experiments of Ludwig are cited as proving that the saliva is secreted some 0·5–1·0° C. hotter than the blood, an observation proved erroneous by Leonard Hill and W. M. Bayliss some years ago. In dealing with reflex action no adequate account is given of Sherrington's masterly researches. In the article on the circulation there is no discussion of a most important subject—the influence of gravity and the change of posture on the circulation. The venous and arterial pressures found in the horizontally laid and anaesthetized animal are cited as if they held good in the active moving animal—an absurd view of the circulation.

The publication of the twelfth German edition of LANDOIS'S well known *Lehrbuch der Physiologie* has been completed, under the editorship of Professor ROSEMANN, of Münster.[5] The work consists of two volumes, contains 975 pages in all, and affords the practitioner a ready volume for reference on any branch of physiological knowledge. The value of the book is in truth wholly as a reference book and not as a textbook for students, for it is written rather as a dull catalogue of ascertained facts with men's names appended to them, than as an inspiring philosophic statement of the first principles of the science. Each chapter is followed by a short account of the comparative physiology of the subject matter treated on in the preceding sections, and an account of the historical development of the subject. Both these accounts are necessarily very limited in scope. The references to literature given at the end of each chapter are also very incomplete. It would be better to refer the reader to standard works on comparative physiology and the history of medicine. The paragraphs headed "pathological," added here and there, are also of little value owing to their shortness, and here again it would be much better to refer the reader to standard works. The space so saved could be given to further and ampler treatment of the subject matter, which is much required in several parts of the work. For example, such an important practical subject as "brain pressure" is dismissed in less than a page, and is dealt with in an insufficient manner within that page. In the section on the central nervous system we note also that while a long list of titles is given, such as sensory cortical and motor cortical aphasia, transcortical and subcortical aphasia, etc., no account is given at all of the modern researches on this important subject by Marie and others, nor is any figure given of Sherrington and Grünbaum's localization of the motor centres in the anthropoid apes. The only figures representing localization are the old ones after Hitzig and Munk. In the chapter on the circulation the venous pulse is not adequately treated, and no account is given of Dr. James Mackenzie's valuable researches, which have done so much to stimulate the study of heart affections. As is too often the case in German works, the researches of English physiologists receive scant or no notice.

THE PREVENTION AND TREATMENT OF ABORTION.

THE most careful estimates that we know of go to show that about one pregnancy in every five ends in abortion. The subject of the prevention and treatment of abortion is

[3] *Physiologie des Menschen und der Säugthiere.* Von Professor Dr. R. du Bois-Reymond. Zweite Auflage. Berlin: A. Hirschwald. 1910. (Roy. 8vo, pp. 656. M.14.)

[4] *Lehrbuch der Physiologie des Menschen.* Edited by Professors N. Zuntz and A. Loewy. Leipzig; F. C. W. Vogel. 1909. (Sup. roy. 8vo, pp. 775; 306 figs. and 2 plates. M. 24.)

[5] *Lehrbuch der Physiologie des Menschen.* By L. Landois. Twelfth edition. Edited by Dr. R. Rosemann. In two vols. Berlin: Urban and Schwarzenberg. 1909. (Sup. roy. 8vo; vol. i, pp. 496, M.9 = Kr.10.80; vol. ii, pp. viii and 481–974, figs. 339, M.9.)

therefore a matter of interest to every general practitioner, and Dr. JANSSIG'S work on the subject[6] deserves serious criticism and careful examination. The statement has been handed down from textbook to textbook for generations of doctors, and accepted as a truism, that abortion is commonest in the third month of pregnancy. Why? Dr. Janssig's explanation is that it is not till she has missed two menstruations that the patient is convinced that she is pregnant, and takes action to put an end to the unwelcome process. His estimate is that 80,000 criminal abortions are induced in New York every year. This may be so. America is the country in which individualism prevails more than anywhere else in the world. The American member of Congress will propose any legislation, however absurd, that a few blatant constituents wish, well knowing that if he proposes it he can get other people to vote against it, or that it will be vetoed by the governor, and that even if it passes it will never be enforced against the popular will. We believe the law in America about criminal abortion is much the same as it is here, only that in the case of the poor it is not worth anybody's while to put the law in action; and, in the case of a rich defendant, it would be difficult, if not impossible, to convict.

The object of the work is to instruct the general practitioner how to prevent, and, if inevitable, how to treat abortion. The author says he has tried to be clear and explicit, and he is clear and explicit. We have not come across anything that is new, but the book is practical and sensible. Condensation would, we think, improve the next edition. Like many of his compatriots, Dr. Janssig knows not that nearly every retroverted gravid uterus will spontaneously rise into its natural position if the patient is kept recumbent, and the bladder frequently emptied. Not knowing this, he advises putting the patient in the Trendelenburg position with a bag filled with mercury in the vagina. He also does not keep before his mind the fact that pelvic adhesions usually prevent pregnancy, and that for a retroverted pregnant uterus to be adherent and incarcerated is a clinical curiosity. The assumption that it is common has given people with the *prurigo secandi* an excuse for performing abdominal section; but when the abdomen has been opened for this purpose the imagined adhesions have not been found. Dr. Janssig's words are these (p. 70): "Whether from adhesions or from a relaxation of its ligaments, the pregnant uterus often lies in a retroverted or retroflexed position. Sometimes such a malposition may correct itself spontaneously, but it is best not to leave this to chance, for, if uncorrected, the most serious complications, incarceration, with almost certain abortion, will result." We agree that pregnancy with retroversion is common, but with adhesions it is excessively rare; it usually spontaneously rights itself, and will almost always do so if a ring or Hodge's pessary is inserted. If incarceration occurs, the danger is from retention of urine, pyelitis and uraemia, not from abortion. Abortion, it is true, occurs in such cases, but not, as a rule, until the patient is dying. Dr. Janssig is not always practical. The treatment of syphilis which he recommends is the daily hypodermic injection of either "the bichloride or some other related salt of mercury." The last phrase is a little vague. Further on he mentions inunctions. Cases may occur in which it is convenient or desirable to use intramuscular injections, but not daily and not of a solution of bichloride. Most persons would for themselves much prefer Hutchinson's pill. The patient can easily be induced to go on with these for years. The author is not always, it seems to us, consistent. At p. 97 he says: "A pair of rubber gloves is even more essential in this kind of work than in obstetrics." But at p. 109 we read: "For the first four or five times that a physician is called to a case of this kind he had better scrub his hands more thoroughly, and, unless he has been exposed to an infectious case, dispense with gloves." Now we know that very good results have been attained without the use of indiarubber gloves; and we know also that indiarubber gloves are so fragile and expensive, that in the practice of midwifery among the poorer classes they are never likely to be generally used. We know also that there are persons, whose judgement is based upon sufficient knowledge to make it worthy of consideration, who think that indiarubber gloves are unnecessary and illusory, as giving a fancied security which is not real. But, think as we may upon this point, we cannot see why indiarubber gloves are unnecessary in the operator's first four or five cases and necessary afterwards. The author, we venture to say, would improve his work greatly if he would study the works of English obstetricians such as Matthews Duncan, R. Barnes, and Braxton Hicks.

[6] *The Prevention and Treatment of Abortion.* By Frederick I. Janssig, A.B., M.D., Lecturer in Gynaecology, Washington University, etc. London: George Keenen and Co. 1910. (Sup. roy. 8vo, pp. 190; 59 illustrations.)

OBSTETRICAL AND GYNAECOLOGICAL TRANSACTIONS.

THE thirty-fourth volume of the *Transactions of the Edinburgh Obstetrical Society*[7] is strong in communications relating to tubal pregnancy. Dr. William Fordyce contributes clinical notes of seven recent cases of extra-uterine gestation, and Dr. James Young's excellent anatomy and histology of the pregnant tube should be carefully studied by all who work at the histology and pathology of this grave type of aberrant gestation. Not many years ago, however, the mortality was high; now, thanks in part to the pathologists and in part to the development of abdominal surgery effected by Lawson Tait and the other immediate followers of Spencer Wells, Clay, and Keith, timely interference has saved hundreds of women, whilst the operation has proved far simpler in the earlier stages of tubal pregnancy than the operators of the last generation ever suspected. Dr. James Young has investigated five gravid tubes. The histology of the structures involved has been scrutinized with extreme care, and is demonstrated by numerous photomicrographs. Many earlier treatises on the same subject are quoted, but the author does not seem to have studied Couvelaire's *Etudes anatomiques sur la grossesse tubaire*, founded, like his own essay, on personal investigation of the histology of the tube. Dr. J. Young finds that the muscular coat is really subjected to great tension; other writers lay stress on the weakening of that coat by the invasion of elements which are a part of the process of gestation. Dr. Berry Hart contributes two important monographs on the descent of the sexual glands in the male and female fetus, and a third contribution on "Mendelian action on differentiated sex." Sir Halliday Croom and Dr. Oliphant Nicholson write on decapsulation of the kidney in puerperal eclampsia, and Mr. Scott Carmichael on the conservative surgery of the uterus, tubes, and ovaries. Physiological research has not yet settled the disputed questions on which Mr. Carmichael dwells, the theories of Mandl and Burger and Abel on which Zweifel and Doran base their methods of performing hysterectomy for fibroids. The author's paper was read before Howard Kelly's recent article on the subject was published. Kelly believes that it is right to save a piece of the endometrium. There are some other good scientific and practical papers which all tend to prove that these *Transactions* should be more widely studied south of the Tweed than is at present the case.

The thirty-fourth volume of the *Transactions of the American Gynaecological Society*[8] is of unusual proportions and of equally unusual interest, as the Society celebrated last year the centenary of Ephraim McDowell's first ovariotomy. By the end of 1809, when medicine still held that a woman subject to an ovarian tumour was doomed, "like a piercing ray of sunshine out of the western sky came the message that an unknown surgeon in the backwoods of Kentucky had proposed—no, not proposed, but had actually done the deed that solved the problem and emancipated woman from this awful curse." Other Fellows of the Society, McMurtry, Brickner, and E. C. Dudley, read communications on McDowell. Dr. Howard Kelly spoke on the great Kentuckian's successors in America, Pozzi and Hofmeier on the evolution of ovariotomy in France and Germany, Dr. Herbert Spencer on the development of that operation in Great Britain, and Mr. Alban Doran on the rise and progress of the Samaritan Free Hospital, "a sequel to McDowell's triumph." As

[7] *Transactions of the Edinburgh Obstetrical Society.* Vol. xxxiv. Session 1908-9. Edinburgh: Oliver and Boyd. 1909. (Med. 8vo, pp. 393.)

[8] *Transactions of the American Gynecological Society.* Vol. xxxiv, for the year 1909. Philadelphia: W. J. Dornan. 1909. (Med. 8vo, pp. 940.)

precious relics of McDowell, a gavel with the hammer end made from the doorknob of his "office," and another with the handle fashioned out of timber from his house, are made the subjects of a plate; they are piously preserved by the society, to which they have been presented. Dr. Herbert Spencer took an active part in the discussions, and besides his historical paper on ovariotomy read an instructive communication on ovarian tumours complicating pregnancy, labour, and the puerperium. The subjects for debate were not confined to ovarian disease, many excellent contributions on other gynaecological questions being included in this volume. We may turn attention to one, relatively original, which reminds us of the writings of Sir Frederick Treves in his early days. Dr. Reynolds of Boston, as a gynaecologist, and Dr. Lovett, as an orthopaedic surgeon, publish a joint abstract report on investigations now being carried on in relation to the influence of corsets and high-heeled shoes on the symptoms of pelvic and static disorders. The discussion after the reading of the report was both active and instructive. Other papers deserve attention on this side of the Atlantic, especially Lapthorn Smith's treatise opposing the sterilization of every woman who has undergone Caesarean section, and Howard Kelly's contribution on subtotal hysterectomy so as to preserve the menstrual function.

The solid volume of the *Transactions of the Southern Surgical and Gynaecological Association for 1908*,[9] is in appearance almost a facsimile of the last mentioned. The papers collected and arranged by Dr. HAGGARD are equally substantial, but there comes first a short address delivered by the President (Dr. Parham of New Orleans), entitled Conservative Surgery, Then and Now. He reminded the association that modern surgery has been accused of turning the hospital into an hotel for the temporary care of the vivisected, whilst, on the other hand, a great American surgeon declared last year at another association meeting that an operation means a confession of failure. The dispute about radical measures and expectant treatment is very old; 1833 is, as far as our science and art are concerned, ancient history. In that year alone, under the influence of Broussais 41 million leeches were imported into France. That certainly meant radical treatment open to legitimate criticism. Radical surgery was then rampant in the domain of amputation; physical strength, nerve, and celerity being too freely displayed by those who possessed such qualities. It was inevitable that awkward blunders occurred. Brodie found a small abscess in the lower end of the tibia after amputation of a leg for obstinate pain of long duration. Three years later he came across what he recognized as a similar case, and evacuated the pus by aid of the trephine, and permanent cure ensued. "The amputation," Dr. Parham justly observed, "may have been more spectacular, but the other was more commendable in conception and result." Brodie's experiences form an object lesson, for we see how the great surgeon taught himself. Dr. Parham quotes Paget's advice about "the courage to do little," and the wise words of our brilliant contemporary Moynihan, "Speed should be the achievement, not the aim, of the operator." The volume includes some excellent communications. Goldsmith of Atalanta reports an instance of dermoid cyst of the kidney, so interesting to the pathologist and surgeon that an abstract of the case has been published in the EPITOME for February 5th, as it ought not to be overlooked in British and Continental European literature of the kidney and abdominal surgery. Norment Baker, of Montgomery, Alabama, contributes a paper on elephantiasis of the male genitalia. Both in his cases, and in a third related by Doughty, of Augusta, Georgia, the patients were negroes. Norment Baker has been able to collect not more than 30 indigenous cases of *Filaria sanguinis hominis* occurring in the United States. The volume contains some excellent communications, read specially for discussion, on cancer of the uterus, the transverse abdominal incision, treatment of abdominal aneurysm by wire, and other familiar subjects.

[9] *Transactions of the Southern Surgical and Gynecological Association*. Vol. xxi. Twenty-first Session, held at St. Louis, Mo., December 15th, 16th, and 17th, 1908. Edited by W. D. Haggard, M.D. Nashville, Tenn.: Published by the Association. 1909. (Med. 8vo. pp. 542.)

NOTES ON BOOKS.

THE author of *My Lady of Aros*,[10] JOHN BRANDANE, is, we fancy, a new writer, and certainly one of promise. His novel centres round certain doings in a Scottish island not long after Forty-Five, when Jacobites and Hanoverians had not yet ceased from mutual troubling; when plots, spying, treachery, and self-sacrifice were still to the fore; when inter-clan vendettas were still common and the depopulation of Scotland by emigration was but just commencing. Its special interest for medical men lies in its hero being a naval surgeon's mate, and in wounds, fractures, and an outbreak of "plague" or typhus fever, all playing an important and perfectly credible part. Indeed, the comparative credibility of the story is one of its virtues; in addition the plot hangs together, the characters stand out clearly, and the interest is well sustained.

DR. JAMES BURNET, of Edinburgh, has published a rewritten and enlarged edition of the *Hints on Prescription Writing*,[11] which first saw the light a few years ago. The point of view from which the subject is approached is that of a student who has to satisfy an examiner that his knowledge of the abbreviated terms used in writing prescriptions in ordinary life is adequate. To this end he must prove that he can not only translate a prescription laid before him, but himself write in either English or Latin full directions for the dispenser and the patient, with due regard to dosage and compatibility of ingredients. The subject is illustrated by supplying answers to questions set at recent examinations. The pamphlet is written so succinctly and to the point that it may well be found more useful by those for whom it is intended than some more ambitious efforts of wider scope.

There has come into our hands a book named *The Prayer Quest*,[12] its author being Dr. W. WINSLOW HALL, a medical man in active practice in London; a subtitle of the book is, A Physiological Extension. Though the work of an enthusiast, it is that of a plainly sane and reasoning enthusiast, and one who is in close touch both with the times and with science, and can write good English prose and versify cleverly. On this account the volume is worth perusal by any one, and study by many; whatever the beliefs or disbeliefs of readers, they are likely to find much with which they can agree, and perhaps some of their vaguer ideas pleasantly crystallized for them.

[10] *My Lady of Aros*. By John Brandane. London: Sir Isaac Pitman and Co. 1910. (Cr. 8vo. pp. 328. 5s.)

[11] *Hints on Prescription Writing*. By James Burnet, M.A., M.D., M.R.C.P.E. Second edition. Edinburgh: John Currie. 1910. (Medium 16mo. pp. 31. Price 1s.)

[12] *The Prayer Quest*. By W. Winslow Hall, M.D.Edin. London: Headley Bros. 1910. (Crown 8vo. Pp. 144.)

MEDICINAL AND DIETETIC PREPARATIONS.

Piutinol.

WE have received from Messrs. A. and M. Zimmermann (3, Lloyds Avenue, London, E.C.) a sample of piutinol, which is a compound intended for the preparation of sulphur baths at home. It is a brown alkaline liquid, and is described as an alcoholic solution of polysulphides and hyposulphites with the volatile oils of coniferae, and the results of tests confirmed this description. Piutinol makes a milky mixture with water, with a strong smell of essential oils blended with the odour of the higher sulphur compounds; on addition of acid sulphur is precipitated in large quantity and sulphuretted hydrogen liberated. It will doubtless prove useful for the purpose for which it is intended, and will put sulphur baths within the reach of those who are unable to visit the natural springs.

AT the end of 1909 there were 23 lepers in the German empire. The number in the foregoing year was 25.

THE number of women students in the medical faculties of the Prussian universities in the winter semester of 1909-10 was 266, as against 188 in the corresponding period last year.

WE have received from Messrs. De Dion a book of instructions compiled for the benefit of those who use the very popular 8-h.p. (model CD) and 10-h.p. (model CL) cars of this firm. It has been brought out because the book of instructions hitherto issued by the firm, and relating to all its models, has grown too bulky and complicated for general use. In future each model will have its own book of instructions. The book before us is very clearly written, and though relating specifically to the particular models in question might be found useful by the user of any car. Copies can be obtained on application.

MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held on Thursday, May 19th, at the Royal Station Hotel, Hull.

Dr. STAMFORD FELCE, M.R.C.P., took the chair, and before formally opening the meeting stated that in view of the calamity which had lately befallen the nation the advisability of postponing the date of the meeting had been seriously considered, but it was decided not to do so, as it was felt that the meeting was a purely formal one, and the holding of it could only be looked upon as a simple business duty, and could not be held to show any want of respectful sympathy. Owing, however, to the difficulties of railway transit, the attendance of members of the Council and others from various provincial centres had been prevented. He was sure that as loyal subjects the meeting would desire to express their sincere and deep regret at the loss which the empire had lately sustained. By the sudden death of His Majesty Edward VII, the nation had been plunged into mourning both outwardly and inwardly. The work which the late King accomplished was ever for the promotion of the peace and prosperity of his subjects; he was a lesson to all in that he never spared himself, and, medically speaking, there was no doubt that his death was accelerated by his determination to work to the last. The suddenness of the blow had caused a greater shock to the nation than even the death of Queen Victoria. In her case the blow was softened by the great age to which she had attained and the length of her illness. In the case of His late Majesty, no one was prepared for the disaster, which came with the force of an earthquake, the tremors of which had not yet passed from them. Whilst mourning for the dead they must remember the living, and he would ask them to pass the following resolution:

> That the members of the Medical Defence Union in general meeting assembled beg to express to Her Majesty Queen Alexandra their deep sense of the great loss which has been sustained by Her Majesty and the United Empire. They beg most respectfully to affirm that the noble work which His late Majesty accomplished in the interests of hospitals and public health and the destitute poor and suffering will live longer in the memory of his subjects than the victories obtained by force of arms in previous reigns.

The resolution was passed silently, the members rising in their places whilst it was being read.

The PRESIDENT then opened the business of the meeting, and gave an address upon the necessity of the existence of such protective societies as the Medical Defence Union, in view of the altered conditions of practice, and the keener criticism which is levelled at the profession by patients at the present date. He concluded the address by moving the adoption of the report, which was unanimously carried. The attention of members was called to the book lately published by the British Medical Association on *Secret Remedies*, and also the work written by Dr. Walsh, dedicated to the Medical Defence Union, on *Quackery*, which two books the President declared should be in the possession of all members of the profession, as the knowledge gained by them would be of great value in exposing the fraudulent pretences of quack medicines and quacks in general.

The usual statutory resolutions were put to the meeting and passed unanimously. Drs. Stamford Felce, Alderton, and Hallwright were re-elected members of the council.

The meeting terminated after a cordial vote of thanks to the president and council had been passed for the valuable and gratuitous services rendered by them to the members.

THE ANNUAL REPORT.

The annual report of the Medical Defence Union for 1909, presented to the members at the general meeting, is a record of success of which any society might be proud. The exigencies of daily medical practice, whether of consultants or specialists or general practitioners, afford ample scope for such protective measures as are adopted in the interests of the members by the Medical Defence Union. It is abundantly proved by the schedules of cases dealt with by the executive and legal officers of the society that it is almost a matter of necessity for every registered practitioner upon starting practice to become a subscriber to some defence society, and to obtain the aid, advice, and assistance of those qualified to give such by many years of experience when in doubt or difficulty. It has been said that "every patient should be considered in the light of a possible plaintiff," and the tabulated list of the cases dealt with by the solicitor of the union show that this opinion is not to be treated lightly. Criticism of medical and surgical treatment by patients and their friends appears to be more common in this generation than in the past, and this criticism is not always friendly, and actions for alleged negligence are by no means uncommon, although, as shown by the report before us, their success is not apparent. Whether successful or not, the medical practitioner against whom an action is brought has to take every step to defend himself; and if he be not a member of a defence society the expense to which he is put will prove in many cases disastrous. As a member of the Medical Defence Union his defence is undertaken without cost to himself, and he has the advantage of knowing that nothing is spared either in trouble or expense to effect a happy issue. The results of such actions are well shown in the solicitor's tabulated statements. From these we gather that in fourteen years of Mr. Hempson's term of office there have been 2,227 cases placed in his hands; of these, libel actions accounted for 652; actions for alleged negligence, 405; prosecutions of unqualified practitioners, 195; arbitrations and other matters of legal nature, 975.

The expenditure of law costs during these fourteen years amounted to £20,064 8s. 11d., with out-of-pocket expenditure of £7,352 12s. 8d. The average law costs of the union each year was £1,433 3s. 6d., of which sum £525 3s. 9d. was paid as disbursements.

The average cost per case was £132 4s., and it is interesting to note that in 1906 five cases cost £1,297 15s. 7d., and in 1908 a similar number cost £1,426 18s. 4d., one case cost £928, another £790 18s. 3d., and in two others the expenditure was over £500 in each; thus in four cases the expenditure was £2,700 for legal defence alone. It is well for members of the profession to note these important facts, and to realize the advantages of joining a mutual benefit society such as the Medical Defence Union has shown itself to be. The income of a general practitioner would undoubtedly be unduly strained if he were to be called upon to defray the costs involved in a successful defence of his professional reputation, even if these costs were not above the average, as illustrated in the tables of the legal report of the solicitor of the union. To these costs also must be added the worry and anxiety of instructing solicitor and counsel and arranging all the numerous details which must arise in defensive actions. By becoming a subscriber to the Medical Defence Union the expenditure is limited to the annual subscription; the worries and anxieties relating to the defence are transferred from the defendant to the executive officers of the union, and the practitioner involved can attend to his daily routine of work, feeling ample confidence, knowing that everything in his interest is being done, and that no trouble or expense will be spared to determine the issue in his favour. It must be remembered that in the majority of actions brought against medical practitioners the plaintiffs are "men of straw" and incapable of paying costs, but that even in dealing with an action brought *in forma pauperis* the costs for the defence are not decreased thereby, and heavy expenditure must be incurred without the slightest possible chance of recovery.

The Council of the Medical Defence Union, together with the members, are to be congratulated upon the excellent financial condition into which they have brought this society. The early history of the Medical Defence Union was of "storm and stress," but for the last twenty years, under capable management, success has been ensured, and the union is a monument of security and protection to those who are wise enough to seek its shelter. The additional security lately gained by the arrangement made with the Yorkshire Insurance Company —one of the highest repute—for an indemnity insurance, whereby the costs of the other side and damages ordered to be paid in lost cases are guaranteed to the extent of £2,500 for a small annual premium, make it possible for a defensive action to be fought without one penny of expense to the member so assured. It is difficult to imagine why every practitioner on registration, who intends to practise in the United Kingdom, does not at once, as a matter of

ordinary precaution, seek membership in one or the other of the defence societies. At any time after practice is commenced an action, however uncalled for, may be raised against him, when his whole professional repute may be at stake; common prudence should compel him to accept the ample protection which, thanks to societies like the Medical Defence Union, is now afforded to him at a small annual cost. In addition to actual defence, advice of a skilled character is at the call of any member, and such advice may be the means of saving the applicant from a dangerous position, by which, if unaided, he may be grievously harmed and his professional prospects seriously impaired. The work carried out by the council of the union is not only an advantage to its members, but is an aid to the profession generally.

MEDICAL SICKNESS, ANNUITY AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE twenty-seventh annual general meeting of this society was held at 11, Chandos Street, W., on May 19th, when the chair was taken by Dr. DE HAVILLAND HALL, Chairman of the Executive Committee, ten other members being present.

CHAIRMAN'S ADDRESS.

The CHAIRMAN, in opening his address, referred to the great loss the country had sustained in the death of their much beloved monarch King Edward VII. No profession would feel the loss more than the medical, the members of which recognized the great interest he showed in its work, since he was an Honorary Fellow of both of the Royal Colleges, and the great interest he displayed in the welfare of the hospitals in London. During the past year the society had had a great increase in the number of proposals, 202 being received, the net gain in membership amounting to 128, making the total number of members 2,851 at the end of 1909. Of this number 2,805 were insured for sickness benefit. The life insurance department was slowly but steadily decreasing, only 157 being insured for life, while annuities to commence at the age of 65 had been secured by 277; many of those who were assured for annuities had compounded and accepted a lump sum down. At the present 35 members were receiving annuities amounting to £1,200 a year. It had always been a great regret to him that more members did not take out annuities when the society was originally started, and he hoped that those who had not taken up that form of insurance in the society were making provision in other quarters, for he considered that when a man reached the age of 65 some sort of provision was required. The sick pay in 1909 amounted to the very large sum of £15,114, which meant that the sickness outgoings exceeded expectations by about £101; this was a proof of the wisdom shown at the starting of the society in allowing an ample margin. For many years the sickness experience was much below expectation, but during the last two years the claims had increased; still the sickness fund continued to grow, being £133,257, as against £126,125 in the previous year. The annuity fund had increased from £80,666 to £82,320, and the life insurance fund from £17,201 to £17,798; in the last two funds no new contracts were made. The total funds of the society now amounted to £233,375, being an increase over the previous year of £9,381. In the annual report a new system of presenting the accounts had been adopted, three instead of the five original funds being shown. Each fund was allotted all the interest earned, and any balance in the management fund after providing for expenses was transferred to each fund in the proportion of the amount originally contributed. Five per cent. of the balance of each fund was earmarked for the Investment Fluctuation Reserve. On members attaining the age of 65 they received a bonus which often was a great surprise as many of those who were compelled to leave the society on attaining that age did not expect to receive anything. The committee had suggested an alteration in the rules so as to make it possible for a member to insure for eight guineas a week. It had been found by many members that six guineas was hardly sufficient for sickness benefit, and the committee proposed that after a period of probation any member wishing to insure for eight guineas as sickness pay should be allowed to do so. In conclusion, he would like to say how much they were indebted to the medical journals, especially the BRITISH MEDICAL JOURNAL, the *Lancet*, and the *Medical Press and Circular*, for inserting notices of the society, which he felt were of great value to it. In fact, as the society did not pay for canvassing, the only hope of getting new members was either by notices in the medical periodicals or through members inviting their friends to join. He had again the pleasant task of thanking the staff for their admirable work during the past year.

The CHAIRMAN moved that the report be adopted. The motion having been seconded, was put to the meeting and carried.

ALTERATION OF RULE.

An alteration in Rule IV, proposed by the executive committee, to enable a member to increase his sickness insurance to £7 7s. or £8 8s. a week, was adopted.

ELECTION OF OFFICERS.

On the motion of Dr. MUTCH, seconded by Dr. HERMAN, the officers in the list before the meeting were duly elected for the current year.

VOTE OF THANKS TO CHAIRMAN.

On the motion of Dr. BRINDLEY JAMES, seconded by Dr. PICKETT, a hearty vote of thanks was accorded to the Chairman for his work during the year and for presiding at the annual meeting.

The CHAIRMAN having replied, the proceedings terminated.

INDIA IN 1908.

REPORT OF THE SANITARY COMMISSIONER.

THE report for the year 1908 has been compiled by Lieutenant-Colonel John T. W. Leslie, I.M.S., Sanitary Commissioner with the Government of India, and the statistical tables which are appended to it by Major S. P. James, M.D., I.M.S. The size and arrangement of the volume are, with few exceptions, similar to those of its predecessors, and the publication presents as methodical, complete, and concise a view of the sanitary events of the year as it is possible to obtain. While the statistical element is still very prominent—perhaps too prominent—in all sections of the report, more endeavour is manifest in this than in any other instalment of the series to interpret the meaning and bearing of the figures in terms of actual pathogeny, and to indicate their value as tests of sanitary administration and effort; and the results of research and experience in India and elsewhere are freely utilized for the purpose of instruction and guidance.

GENERAL CHARACTER OF THE YEAR.

The year 1907 was characterized by deficient rainfall and partial failure of crops, excessive prevalence of plague, causing high, and in some provinces very high, death-rates, while the habitual causes of mortality were by no means of unusual severity. The health of troops and prisoners was good. The incidents of the year were summarized in the BRITISH MEDICAL JOURNAL (vol. i, 1909, p. 1192). The sanitary circumstances of 1908 were very different from those of the preceding year, and they offer a new illustration of the striking alterations which the health conditions of the Indian Empire are apt to undergo from year to year. The rainfall, which is the chief feature of the meteorology and climate of the country, and on which so essentially depend food production, public health, sickness, and mortality, was abnormal in respect of unequal distribution as regards both place and time, being in excess in some localities and seasons, and in defect in others. The cold weather was unusually wet, and the hot unusually dry. The monsoon rains were scanty in the eastern parts of Upper India, and "in enormous excess" over North-Western India. There was an early cessation of the rains over Northern and Central India; and over the areas supplied by the south-western and north-eastern currents of the bay there was also, during the last four months of the year, a considerable deficiency of precipitation. Excessive rain in the Punjab caused extensive and severe floods in September, which destroyed crops, inundated towns, demolished houses, and covered large areas of country. Floods in India are always disastrous to crops, and are followed by increased sickness and mortality. The spring crops of 1908, owing to the unfavourable conditions which prevailed towards the close of 1907, were

defective, and the autumn crops largely failed in consequence of too little rain in some districts and too much in others. High prices were general, and a considerable amount of scarcity and depressed vitality was thereby caused. Altogether the circumstances of the year were unfavourable to health, as the facts quoted in subsequent paragraphs abundantly indicate. With the exception of two small frontier expeditions peace prevailed in India, and political, social, and industrial life remained undisturbed.

VITAL STATISTICS OF THE GENERAL POPULATION.

No alteration appears to have taken place in the arrangements for registering births and deaths. The experiment of testing police returns by means of a professional agency was continued on a small scale in the Bengal district of Burdwan. The results indicate a fair degree of accuracy as regards total deaths and deaths attributed to cholera, small-pox, and injuries, but a great excess of deaths registered under the head of "fevers," and a defect under bowel complaints, chest-diseases, and "other causes." No information beyond this is given on the subject of checking and verifying returns. The birth-rate was 37.78, a little lower than that of 1907, and still less than the mean of the preceding quinquennium. The highest rate was 52.84 in the Central Provinces, and the lowest (24.17) in the small province of Coorg, where the proportion of females in the population is small. The death-rate was 38.2, or 1.3 per 1,000 higher than in 1907, and 4.25 than the preceding quinquennium. The highest rates were returned by the United Provinces (52 73) and the Punjab (50.73), and the lowest by Bombay (27.15) and Madras (26.2). On the aggregate, death-rates exceeded birth-rates by 0.42 per 1,000, but the excess amounted in the United Provinces to 15.27, in Coorg to 10.27, in the Punjab to 8.9, and in Bengal to 2.47. In other provinces births were more numerous than deaths. In most provinces urban death-rates exceeded rural, and in those with a heavy mortality female rates were higher than male. The death-rate of male children under 1 year of age was 249 6 per 1,000, and of female 241.4 per 1,000, reckoned on the births of the year.

PREVALENT DISEASES.

The facts presented in the preceding paragraph indicate that the year was a very unhealthy one, and the statistics relating to the causes of the excessive mortality show that the excess was mainly due to fevers, mostly malarial, while cholera, small-pox, and bowel complaints were also in excess. On the other hand, there was a striking abatement of plague mortality. Of the total deaths 63 per cent. were returned under the head of fevers, 1 of plague, 7 of cholera, 3 of bowel complaints, and 2 of small-pox, leaving a balance of 24 for other causes, against 53, 14, 5, 3, 1, and 24 in 1907. The excessive prevalence and fatality of fevers constituted the chief feature of the year. Fever mortality amounted to 23.96 per 1,000, representing a mortality of nearly 5½ millions, against a habitual mortality of 19.5 and 4½ millions. The provinces which were most severely visited were the United Provinces and the Punjab, with fever rates of 41.31 and 34.66. The small province of Ajmere and Merwara had also a high rate, the remaining provinces being about or under the average. The areas affected were thus limited, and only portions of the implicated provinces suffered very badly. The type of the disease was deadly, and young children and aged people were the principal victims. Some districts and towns presented very high rates—over 100 per mille. Quinine was extensively distributed over the affected areas, and dispensaries were established in places. The Sanitary Commissioner writes a long and able dissertation on the prevention of malaria in the country. He shows how much worse malarious disease is among the general population than among troops and prisoners, and how much more arduous is the problem of prevention. He deduces from the experience of regiments and gaols grounds for concluding that measures of general and special hygiene are effective for the reduction of malarious sickness and mortality. Drainage and the systematic administration of quinine are the means of prevention on which he would place most reliance, but increased investigation and the study of local conditions are needed to direct preventive efforts with intelligence and effect. The mortality caused by kala-azar continues to fall. Instructive diagrams showing the rainfall and fever prevalence of the four quarters of the year accompany the report.

There was a very striking reduction in the mortality caused by plague in all provinces except Madras, in which there was a slight rise, and Coorg, and Ajmere and Merwara, where the numbers were small. There was no death in Eastern Bengal and Assam. The general rate fell from 5.16 to 0.50—about a tenth; that of the Punjab from 30 27 to 1 53; of the United Provinces from 6.90 to 0.48; and of Bombay from 5.06 to 1.48. The conditions affecting the epidemic rise and fall of plague are not completely known, and require further investigation. The maximum mortality occurred in March, a month earlier than usual. Low mortality in November and December, 1907, presaged the decline which took place in 1908; 533,315 doses of antiplague vaccine were issued from the Bombay laboratory, against 620,927 in 1907, which was a bad plague year, indicating increasing popularity of the prophylactic, of whose beneficial effect some favourable evidence was obtained.

Cholera caused 591,725 deaths, against 408,102, a rate of 2.61 against 1.81. There was an increase in all the provinces except Bombay, Eastern Bengal and Assam, and Coorg. The highest rates were recorded in Bengal, Madras, the United Provinces, and Eastern Bengal and Assam. The death-rate in the gardens was 5.34, against a provincial rate of 1.99. In Bombay the mortality was unusually low. There was also a considerable rise in small-pox mortality, from 0.46 to 0.75. The rise was most marked in the Punjab and the United Provinces. Some striking facts are recorded showing the preventive power of exhaustive vaccination. There was a slight rise in the mortality caused by bowel complaints, less than might be expected in a malarious year, in which also scarcity mus have compelled the people to live on scanty and inferio food; but no doubt many deaths from bowel complaint were registered under the head of cholera.

SANITARY ADMINISTRATION AND WORK.

Information under this head is recorded provincially, and does not admit of general summary. Municipalities and districts board devote a creditable proportion of their revenues to sanitary purposes, and the provincial sanitary boards dealt with many important projects for the supply of pure water, drainage, and conservancy. In Benga native students are qualifying for sanitary engineering. Peshawur and Dera Ismail Khan each entertained the services of an assistant surgeon as assistant health officer. The sanitary department offers a legitimate and promising field of employment for natives educated for both medicine and engineering.

(To be continued.)

EGYPT AND THE SUDAN IN 1909.

THE reports of Sir Eldon Gorst, British Agent and Consul-General, on the finances, administration, and condition of Egypt and the Sudan in 1909 were issued on April 28th.

EGYPT.

In reviewing the general situation reference is made to the assassination of the late Prime Minister, Boutros Ghali Pasha. Sir Eldon Gorst has no hesitation in stating that the motives of the crime were purely political, and the leaders of the Nationalist party are morally responsible for the murder. Sir Eldon Gorst refers to the valuable services which throughout his official life the late Prime Minister rendered to his country, and the loyalty and integrity which he displayed in many difficult and delicate situations.

Public Health.—Hospitals.

The work of the Government hospitals and dispensaries continues to show satisfactory progress. The in-patients treated during the year numbered 37,000, while in the out-patient department a total attendance of over 350,000, including 144,500 new patients, is recorded. Moreover, some 33,000 persons have been attended gratuitously by the district medical officers. The improvement observable during recent years in the quality of the work done is largely attributable to the excellence of the course of education at the School of Medicine.

The two travelling ophthalmic hospitals visited Mansourah, Ghizeh, Beni-Souef, and Luxor during the year

working between them on 442 days. Over 7,000 new cases were treated, and the total number of attendances was 100,000, giving an average of 221 per working day in each hospital. More than one-third of those attending for the treatment were under 15 years of age. The popularity of the service amongst the fellaheen is of good augury for the future, and it may be hoped that in time some appreciable effect will be produced on the mass of ophthalmia prevalent in this country.

At Tantah 5,000 new cases were dealt with in the permanent ophthalmic hospital, and there were 77,000 visits paid by patients under treatment; 1,763 major and 2,418 minor operations were performed. The ophthalmic hospital at Assiout is nearly finished, and will be ready during the year. The construction of the Mansourah hospital, the foundation of which was due to the generosity of Bedrawi Bey, a local notable, has not yet been put in hand. The plans have, however, been approved, and it is hoped that work will be begun this year.

Efforts are being made to deal with ophthalmic cases in Government schools by instructing the teachers, and through them the students, in some of the simple rules of hygiene.

The staff of this department is to be reinforced by an English inspector, in view of the great increase of work; a suitable candidate has been found, and will shortly be appointed.

Plague.

It is satisfactory to record a marked diminution in plague during 1909, especially in the more dangerous pneumonic form. The total number of cases was 513, as compared with 1,511 in 1908, whilst the number of deaths fell from 780 to 207.

The special organization formed two years ago in the Southern Provinces for dealing with the disease has largely contributed towards this satisfactory result. Disinfecting stations with the necessary appurtenances and a competent staff have now been supplied to each Moudirieh. A supernumerary staff of trained disinfectors is kept in readiness at head quarters, and a plague medical staff has been organized ready to proceed at short notice to an infected locality.

The campaign waged against plague for the last ten years has been productive of many indirect advantages in addition to its direct effect in preventing the spread of this terrible scourge. Death registration has been rendered more complete, attention has been called to the unhealthy conditions of life and the need for local improvements, while the medical staff has received a sound and efficient training. The total sum spent by the Public Health Department in combating plague during the whole of this period has not amounted to more than £E.249,000, or about £E.25,000 a year.

Infant Mortality.

Reference was made in the JOURNAL of April 30th, page 1058, in an article on the sanitation of Cairo, to the excessive infant mortality, and on this subject Sir Eldon Gorst says: Last summer the death-rate of children under one year assumed unusual proportions in Cairo. The weekly rate, which is about 105 on the average, rose to 130 in the latter part of March, 188 towards the end of April, and 654 in the middle of May. The figures for the next four weeks averaged 573, the maximum reached being 700. Then came a sudden drop to 248 in July, followed by a further gradual decline, till in December the mean of the previous winter was reached. High infantile mortality may be observed in the summer in all hot countries, being generally due to digestive troubles; but the immediate cause of the unusually serious outbreak in Cairo last year has not so far been discovered. Careful and thorough investigation is necessary before any definite conclusion can be arrived at, and it is hoped that some steps may be possible in this direction during the approaching hot weather. In any case, it is certainly desirable to do all that is possible to educate mothers in habits of care and cleanliness and in the rational bringing up of children. A most useful lead in this direction has been given by the Lady Cromer dispensaries, which are endeavouring to instil elementary ideas on the subject among the poorer classes. It is understood that the Princesses of the Khedivial family have recently decided to establish a society for the protection of infant life, and a general movement on these lines amongst the wives and daughters of the well-to-do might be expected to produce great improvement in existing conditions.

Cairo Water Supply.

In the article on the sanitation of Cairo, already quoted, reference was made to the unsatisfactory state of the water supply,[1] and this is borne out by the remarks in the report under review. For nearly three years the question of the water supply of Cairo has been under consideration, and at last the Government has arrived at a definite conclusion in regard to this important matter. After referring to the work of the Commission on the water supply,[2] Sir Elden Gorst states that it is not within his province to offer an opinion on the scientific and technical points on which the recommendations of the committee are in a great measure based, but from the point of view of the mere layman he ventures to think that the following considerations amply justify the measure which has been adopted.

1. The decision has been arrived at (namely, the arrangement the Government have made with the water company of Cairo to revert to the river supply under conditions as regards intake and filtration laid down by the Public Health Department) with unanimity after prolonged and exhaustive examination of the question in all its bearings, and consideration of the views of all the most competent experts in the country.

2. The bacteriological purity of well water is of little practical advantage from the hygienic standpoint if the population will not drink it.

3. The present system is extremely unpopular amongst all the inhabitants of Cairo, from the highest classes to the lowest, and the experience of over five years has in no way reconciled them to the change.

4. At Alexandria, where the supply is taken from the Nile water in a far more polluted condition than is the case at Cairo, the system of filtration which is to be introduced into the latter city has been in operation for some years with excellent results.

The system referred to by Sir Eldon Gorst is the adoption of filters of the Jewel type.[3]

The chief point in the scheme adopted by the Government which has attracted unfavourable comment is the decision to place the intake, from which the water will be drawn, in the neighbourhood of the water company's installation down-stream of the town, and it has been assumed that this course has been adopted for financial reasons, in order to avoid the expense of establishing the intake up-stream.

With regard to this criticism, Sir Eldon Gorst remarks that this decision was the outcome of very careful reflection, and was only arrived at after a thorough examination of the water both above and below the town had conclusively proved that there was no appreciable difference between the two. This result is not surprising when the various factors in the case are taken into account—namely, the absence of drainage, whether domestic or from manufactures; the scanty rainfall; and, above all, the great volume of water in the river. In fact, it may be said that the normal composition of the Nile water, provided it is taken at a sufficient distance from the bank, compares everywhere most favourably with the average river supply in Europe. Under these circumstances, it has been thought preferable to leave the intake in the immediate neighbourhood of the waterworks but some 100 metres out in the stream where it can be efficiently watched, rather than to place it at some distant spot, where supervision would be difficult and uncertain. The suggestion that considerations of economy have unduly influenced the Government is, Sir Eldon thinks, sufficiently disproved by the fact that the cost involved by the alteration of the water supply has been very considerably increased owing to the system of filtration which has been adopted. The sanitary authorities urged strongly that there was no other system which had been shown by past experience to be capable of meeting all the requirements of the case, under the climatic and other special conditions of the country, and in deference to their views a system was finally approved which, whatever its merits, had certainly the disadvantage of being much more expensive than several others which were put forward.

(To be continued.)

[1] BRITISH MEDICAL JOURNAL, April 30th, p. 1058.
[2] Ibid., April 30th, pp. 1058-9.
[3] Ibid., April 30th, p. 1059.

Nova et Vetera.

SOME ROYAL DEATH-BEDS.

For God's sake let us sit upon the ground
And tell sad stories of the death of kings.

After this melancholy invitation poor Richard II goes on to say:

How some have been deposed; some slain in war;
Some haunted by the ghosts they have deposed;
Some poison'd by their wives; some sleeping killed,
All murdered.

We do not propose, however, to follow him back to the times of violence of which he speaks. We will confine ourselves to days comparatively modern, when as a rule the deaths of kings could only be imputed to natural causes, sometimes it must be owned helped by ineffective or mischievous physicking.

Of the death-beds of our sovereigns historians have as a rule little to say that is of medical interest. It is not, indeed, till the last scene of James I's performance on the stage of life that it can be said we have any medical account at all. It will be convenient, therefore, to begin with Henry VIII, as it was in his reign that the Royal College of Physicians of London was founded, and that medicine as a profession needing formal initiation on the part of those who wished to practise it was placed on a definite legal basis. The following brief sketch, though based on well-known historical authorities, does not profess to be exhaustive. We shall welcome further contributions, as anything relating to the deaths of important personages up to times comparatively recent not only throws light on the state of medical knowledge at the time, but may also help to reveal the secret springs of history. The fate of a people in the Middle Ages and for centuries later depended largely on the health of their rulers.

Henry VIII.

In 1546 the life of Henry VIII was clearly coming to an end. From a handsome, athletic man he had become a mass of loathsome infirmities. He was bloated in face and so unwieldy in body that he could not pass through any ordinary door, and could be moved from one room to another only by the help of machinery and a number of attendants. His legs were swollen and ulcerated, the festering sores causing an unbearable stench. Towards the end he could neither walk nor stand. All about him saw that death had laid its hand upon him. Yet the King himself, according to Foxe, was "loth to hear any mention of death"; this, we shall see, may almost be called a characteristic of royalty. When a French Prince angrily inquired as to the meaning of the phrase, "*Le feu Roi d'Espagne*," inadvertently used by someone about him, he was pacified by the wily courtier's assurance, "*C'est un titre qu'ils prennent.*"

Lingard, on the other hand, says: "Of his [Henry's] sentiments on his death-bed nothing can be asserted with any degree of confidence. One account makes him die in the anguish of despair; according to another he refused spiritual aid till he could only reply to the exhortation of the archbishop by a squeeze of the hand; while a third represents him as expiring in the most edifying sentiments of devotion and repentance. He died on Friday, the 28th January, about two in the morning."

His admirer Froude, speaking of January 28th, 1547, says:

"On the same morning, an hour after midnight, Henry VIII had died. Late on Thursday evening the symptoms had become rapidly worse. He was asked which of his bishops he desired to see. He answered, 'Cranmer.' The Archbishop was sent for, but there was some delay; and when he reached Whitehall the King, though conscious, was speechless. Cranmer, 'speaking comfortably to him, desired him to give him some token that he put his trust in God through Jesus Christ; therewith the King wrung hard the Archbishop's hand, and expired.'"

Henry died at the age of 56. Of his doctors or the treatment used nothing is recorded. He had always been interested in medicine, and, according to Froude, was one of the best physicians in his kingdom. By the irony of fate his name had been given to an infallible ointment for sores, with the invention of which he was credited. In any case he must have been a formidable patient to deal with.

His sufferings made his temper like that of a wild beast. Of the actual cause of his death nothing certain seems to be known.

Edward VI.

Edward VI. died at the age of 16, apparently of consumption. He caught cold playing tennis; and soon he began to be troubled with a racking cough. According to the *Dictionary of National Biography* "Dr. George Owen and Dr. Thomas Wendy were in constant attendance with four other doctors, but they foolishly allowed experiments to be tried with a quack remedy, which had disastrous effects." But is there any proof that they did "allow" this? Physicians whose privilege it is to minister to royal sufferers cannot always prevent officious courtiers from bringing in unofficial and often questionable advisers behind their backs. Many a king who has escaped the various forms of violence enumerated by Richard II has in all probability died of a multitude of medical counsellors. According to Froude, Edward's illness began in January, 1553. In May he was reported to be worse, and his doctors being anxious for the support of further advisers, the family physician of the Duke of Northumberland was called in, with a professor of medicine at Oxford; "to these was afterwards added a woman who professed to be in possession of some mysterious specific; and before they were admitted to the sick-room they were sworn in the presence of Northumberland, Northampton, and Suffolk, to reveal to no one the king's condition." This tradition of secrecy, which has lasted to the present day, had the consequences, inevitable in the sixteenth century, of exciting suspicion among the people. The usual foolish rumours flew from mouth to mouth; it was said by some that the young king was already dead; by others that he was poisoned; by others again that his sister Mary had "overlooked" him. The physicians expressed despair of saving his life, and he was left in the hands of the woman quack. He became worse and, in addition to the symptoms of pulmonary disease, "eruptions on his skin came out; his hair fell off, and then his nails, and afterwards the joints of his toes and fingers." Froude thinks it probable that "the woman to whose exclusive care the king was culpably committed administered mineral medicines, and that Edward was, in fact, poisoned, though not by deliberate malice." On July 4th a report got about that the king was dead. "A wan face had been seen at a window of the palace at Greenwich; Edward had been helped out of bed and carried to the casement, that the people might assure themselves with their own eyes that he was living. But the suspicion was only deepened; the spectators believed that they had seen a corpse." On July 6th the end came.

Mary Tudor.

Mary, from the time of her first supposed pregnancy, was often ill, and her strength was further reduced by frequent bleedings ordered by her physicians. In September, 1558, she was attacked by a fever which was then raging in England, killing thousands of her subjects. It was called the "new burning ague"; most probably it was influenza.* She had long suffered from a disease which she called her "old guest." The chief symptom was amenorrhoea. Spencer Wells, in an address delivered before the British Medical Association at Manchester in 1877, expressed the opinion that the disease was ovarian dropsy. Wells believed that she aborted early in her first and only real pregnancy. The disappointment, no doubt, weighed heavily on her mind. She became cachectic, and a subsequent enlargement of the abdomen gave rise to false hopes. For years before the end her health had been bad. As a girl she had suffered from scanty and painful menstruation, the result, it may be conjectured, of overstudy. In more advanced life she was seldom free from headaches and palpitation of the heart, and her bodily ailments were doubtless aggravated by mental suffering. It is related that when she was dying she said to one of her ladies in waiting, "When I am dead and

* See Creighton: *History of Epidemics in Britain*, vol. i, p. 404. Cambridge. 1891.

opened you shall find Calais lying upon my heart." There is no record of any medical examination of the body; but it is probable that she died of an ovarian tumour.

She passed away on November 17th, 1558, in full possession of her senses, in the act of hearing Mass, which was said in her chamber. She was in her forty-second year.

Her bodily state, combined with her domestic unhappiness, no doubt contributed to sour her temper. As Spencer Wells says, if she had been "treated with the knowledge now at our command, the destinies of England might have been strangely altered."

Elizabeth.

It would seem that Queen Elizabeth's last illness began with a cold, which she caught at the beginning of 1603. She recovered sufficiently to go to Richmond, where at the end of February she was again ill. In the middle of March she became so much worse that the Lords of the Council were sent for and continued in attendance till the end. She declined medical treatment, and took hardly any food. Sir John Harrington, her godson, found her reduced to a skeleton; her food was nothing but manchet bread and succory pottage. She had not changed her clothes for many days, and she obstinately refused to go to bed. She sat day and night on a stool bolstered up with cushions, holding her finger in her mouth, and keeping her eyes fixed on the floor. She could seldom be induced to speak, treated the Lords of the Council with contempt, and was the torment of the ladies about her. Her imagination was haunted by phantoms, and when her relative, the Lord Admiral, urged her to go to bed, she said that if he had seen what she had seen there he would not press the advice. Sometimes there was a flash of the old spirit, as when Cecil ventured to say that she must go to bed. "Must," she exclaimed; "is 'must' a word to be addressed to princes? Little man, little man, your father, if he had been alive, durst not have used that word; but thou art grown presumptuous because thou knowest that I shall die." She had a sword placed by her table, which she often thrust violently into the tapestry of her chamber as if to slay a hidden enemy. She died on March 24th, speechless, with her Council standing round. Lady Southwell, one of the maids of honour who waited on her, says:

"She kept her bed 15 dayes, besides 3 daies she sat upon the stole, and one day, being pulled up by force, stood on her feet fifteen hours. Her Majesty understood that Secretaire Cecil had given forth that she was madd; and therefore in her sickness did manie times say to him: 'Cicell, know that I am not mad. You must not think to make Queen Jane of me.' [Doubtless she was thinking of the unfortunate Queen of Spain, Juana la Loca] And although manie reports by Cicell's meanes were spread how she was distracted, myself nor anie that weare about her could never perceive that her speeches soo well adapted proved for a distracted mind."

What she died of there is no definite evidence to show. Beaumont, the French Ambassador, writing to his sovereign on March 19th, says "that Queen Elizabeth had been very much indisposed for the last fourteen days, having scarcely slept at all during that period, and eaten much less than usual, being seized with such a restlessness that, although she had no decided fever, she felt a great heat in her stomach, which obliged her every moment to take something to abate it, and to prevent the phlegm with which she was sometimes oppressed from choking her. . . . All agreed that before her illness became serious she discovered an unusual melancholy both in her countenance and manner." Though aware, says Miss Strickland in her *Lives of the Queens of England*, that those about her anticipated a fatal termination to her present malady, she refused to admit her danger and to do anything which bore the appearance of deathbed preparations. When the Archbishop of Canterbury and Cecil begged her to call in medical aid, she angrily told them that she "knew her own constitution better than they did, and that she was not in so much danger as they imagined." An attempt was made to charm away the dark spirit which overshadowed her by means of music. The end is described by Beaumont in a report from which the following is an extract:

"The Queen was given up three days ago; she had lain long in a cold sweat, and had not spoken. A short time previously she said, 'I wish not to live any longer, but desire to die.' Yesterday, and the day before, she began to rest, and found herself better, after having been greatly relieved by the bursting of a small swelling in her throat. She takes no medicine whatever, and has only kept her bed two days; before this she would on no account suffer it, for fear (as some suppose) of a prophecy that she should die in her bed. She is, moreover, said to be no longer in her right senses; this, however, is a mistake; she has only had some slight wanderings at intervals."

At last she passed away quietly in sleep, or more probably in coma. She was in her seventieth year. Lady Southwell says she left orders that her body was not to be embalmed, but Cecil directed her surgeon to open it. "Now the Queen's body being cered up," Lady Southwell proceeds, "was brought by water to Whitehall, where, being watched every night by six several ladies, myself that night watching as one of them, and being all in our places about the corpse, which was fast nailed up in a board coffin, with velvet, her body burst with such a crack, that it splitted the wood, lead, and cere-cloth; whereupon, the next day she was fain to be new trimmed up."

(To be continued.)

THE AMBULANCE WORK DURING THE FUNERAL CEREMONIES IN LONDON.

THE anxiety of so many people to view the Lying-in-State at Westminster Hall, the preliminary proceedings on Tuesday, and the long waits resulting, gave rise to plenty of opportunities for useful first-aid work, while the need for such work during the procession on Friday was, of course, anticipated. It was foreseen that its amount would depend on several variable factors—the number of people trying to see the procession, their choice of positions, their behaviour to one another, the fashion in which they met the instructions of the police, the hour at which they began to collect, the distance from which they travelled, and the weather. All of these factors came into play, some favourably, some otherwise.

There can scarcely have been less than a million people on the route; nearly all of them had got up at an unaccustomed hour; some had travelled long distances; at certain points the crushing of body against body was intense; the shade temperature was very much higher than it had been recently, and from quite early in the morning there was hot sunshine. On the other hand, the tendency of the crowd was to behave in a sensible and orderly fashion, and the police, except occasionally at certain spots, were able to keep the line merely by the exercise of the firmness and good humour habitually shown by them on such occasions.

Nominally, of course, it was the troops that kept the line, but, except at certain points, where unusually broad roads intersecting the line of the procession were kept closed by mounted troops, it was really the police; the chief difficulty attaching to this duty had, indeed, been got over long before the troops took up their position between 8 and 8.30 a.m. It was the police authorities, too, who saw to the making of arrangements for first-aid work, and individual policemen who made the actual working of these arrangements feasible. But, of course, the possibility of any adequate arrangements at all turned on the existence of voluntary bodies long since organized for such purposes. Indeed, the thought evoked in one observer was, what would happen on such occasions did a bureaucratic Government, filled with zeal for centralization, take into its head to red-tape such voluntary but experienced organization out of practical being? Not long ago such an occurrence seemed quite probable.

The Organizations Provided.

What work was required in connexion with the Lying-in-State was done by the St. John Ambulance Association and individual members of the police, a very large proportion of this force being now thoroughly competent administrators of first aid; but on the day of the procession from Westminster to Paddington a number of bodies co-operated either by official arrangement or tacit consent. They were the Royal Army Medical Corps, including its Territorial branch, the St. John Ambulance Brigade, an individual stretcher party sent by the 25th Battalion County of

London Regiment, and the Church Red Cross Brigade for Women and Girls. Between them they provided nearly one hundred stations, so that practically the route of about three and a half miles was "ambulanced" from end to end at distances of about 125 yards on both sides of the processional line. It sounds a very generous provision, but any one who tries to get though a densely packed crowd for even a hundred yards will soon be convinced that it is quite a long distance.

All the stations were kept in touch by the bearer parties extended along the intervening spaces between them, so that at no part of the route was any one in need of assistance likely to be overlooked. Though provided nominally for civilians and the military forces respectively, whatever persons required treatment received it at these various stations irrespective of the class to which they belonged; any one who collapsed was forthwith removed to whatever station was nearest or, for the moment at all events, the most accessible. In this way at nearly all stations, whether civil or military, a greater or fewer number both of civilians and soldiers were treated. In addition the St. John Ambulance men did useful work at certain points in serving out water to the troops in the interval that elapsed between the time they took up their positions and were allowed to stand at ease, and the moment at which the news was "flagged" that the procession had actually started.

The Military Arrangements.

The military arrangements were made by Colonel A. Peterkin, Principal Medical Officer of the London District, who, when the time came for him to take up his position on the staff of the general command of the district, placed Lieutenant-Colonel Clarkson in executive charge. Including as they did Rest camps in various parts of London for troops arriving from distant stations, they were necessarily of an elaborate character. There were five Rest camps in all, and each of them had a marquee fitted up for eight beds, in charge of a medical officer, one non-commissioned officer, and two orderlies; while the provision for medical work created by the procession itself included eleven ambulance stations, formed by an ambulance wagon in charge of a medical officer, eleven stretcher squads of the R.A.M.C. regulars, and twenty-two stretcher squads drawn from the R.A.M.C. Territorial Force. These were so disposed as to ambulance the route from one end to the other at distances of 300 yards on each side. It should be added that most of the regiments which came up from country stations brought bearer parties with them, and that the Royal Army Medical Corps was directly represented in the cortège by a detachment of fifty men and three officers.

The St. John Ambulance Brigade.

The St. John Ambulance Brigade paraded over a thousand strong at St. John's Gate at 6 a.m., and had taken up their stations for the most part by 7 a.m. They provided in all thirty-six stations; six of these were between the Houses of Parliament and the Horse Guards, five scattered along the Mall, eight between St. James's Palace and Down Street, Piccadilly, eight more in Hyde Park, and yet another eight between Seymour Street, Edgware Road, and Paddington railway station. Each station consisted of twenty trained bearers, six nursing sisters, stretchers, medicine chest, etc., and each was in charge of a surgeon. A few of the surgeons were in charge of more than one station, so that, including the Surgeon-in-Chief of the London District, the total number of medical men interested in the St. John Ambulance Brigade who gave up their day to the public service, was twenty-eight.

The general plan adopted was to divide the personnel of each station into three sections, one of which remained at the station to receive and treat patients, while the other two watched the line in front and behind the crowd and together co-operated in carrying off for treatment those requiring it. Most of the men belonging to these sections worked in parties of two, each such subdivision endeavouring to keep just sufficient distance from the like division on each side to keep in touch with them, and thus provide for immediate help to any person requiring it along the whole line. At a majority of the stations stretchers and wheeled litters were provided, but there was not always space for them to be used. Hence it often happened that patients had to be carried through the crowd by hand. There were also a few wagons and some depots at which fresh supplies could be obtained.

The Church Red Cross Brigade.

The Church Red Cross Brigade turned out over one hundred and fifty strong, and had six stations allotted to it, all of these being along the Edgware Road. Each of these was in charge of a medical officer, two trained nurses, and ten orderlies; the work, in short, was done on much the same lines as that of the St. John Ambulance Brigade. More turned out than seem to have been expected, with the result that it was found possible to subdivide each of the stations into three, and thus extend the distance on the line of route over which it was possible to render assistance. Special interest attaches to the work of this brigade, for, with the exception of the medical officers, it consists entirely of women, who wear a special kind of uniform having some resemblance to the yeomanry pattern. The brigade has several objects in view, but on occasions such as the one under consideration they perform precisely the same duties as the bearers and nurses of the St. John Ambulance Brigade. Moreover, they seem capable of performing it with entire efficiency. The patients who came into their hands were for the most part adults of both sexes, and they carried them away to the stations on their stretchers with apparent ease; they also themselves stood the stress and strain remarkably well; only two out of the whole number showed signs of failing, and these only felt faint for a few minutes and then returned to the ranks.

The Number of Casualties.

As for the number of persons who fell ill or were injured before, during, or after the passage of the cortège, it is impossible to speak with precision. Large numbers of those who felt ill were assisted out of the crowd or otherwise attended to by their own friends; and though at most of the civilian stations an attempt was made to keep count of the cases treated, complete accounts commonly proved impossible. The military treated great numbers of civilians, but only 25 soldiers were sent for treatment at hospitals. On the other hand, a considerable number of soldiers suffering from passing attacks of illness received assistance, as has already been mentioned, at civilian stations. The St. John Ambulance Brigade had records of over 6,000 cases, the real number being, for the reasons stated, probably considerably higher, while the stations of the Women's Brigade know that they treated over 500. A large proportion of the crowd had collected as early as 4.30 a.m., and the ambulance parties met with plenty of calls the moment they arrived at their stations. They were constantly engaged throughout the morning, and were not able to break up until long after the procession had actually passed. On the whole, Hyde Park Corner seems to have been about the busiest localitiy, next coming the Mall and the Marble Arch. Apart from actual casualties, a good index of the physical feelings of the crowd was given by the extent and thankfulness with which it availed itself of the thoughtful kindness of persons who served out water from many public and private buildings as soon as movement became possible after the procession had passed.

The Difficulties of the Work.

As for the conditions calling for treatment, they were fortunately for the most part not of a permanently serious kind; the precise nature of them will be considered later on. One soldier who collapsed very suddenly got a severe scalp wound by striking his head on the kerbstone, and there were several cases of severe cuts on the hands and legs among men and boys who climbed the trees in the Green Park despite the fact that these were girthed with barbed wire. Tree climbing also gave rise to a fractured thigh, and there were one or two other minor fractures. A considerable number of cases of epileptic seizure had also to be dealt with. Despite, therefore, the large number of cases treated, the day may be regarded as having passed without serious medical occurrences of any kind; this in view of the hugeness of the concourse, the fashion in which it was composed, and all the factors which have been mentioned, must be considered remarkable testimony to the character of the work done by all the various bodies engaged in it.

In respect of all of them the general idea was to place the stations wherever possible at the openings of intersecting streets, so as to ensure working room. In this connexion one of our representatives was much struck by the cleverness with which the mounted police sometimes cleared the way for stretchers by cutting a lane for them along which the patient could be carried, with their horses. They also adopted a similar plan in keeping a clear space round the tailboards of the ambulance wagons. These wagons, wherever situated, were immensely useful, as they made it possible to provide shelter for cases which took long in recovering.

Nevertheless, despite all the assistance which the police could give, and did give most willingly and intelligently, the work at all stations was done under circumstances of great difficulty, owing to the thronging of bystanders. At some of the Church Red Cross Brigade and other stations it was found necessary to call in some of the bearers and secure space by a fence of locked arms.

The Conditions Treated.

As for the nature of the casualties which came under treatment, though many of these seemed initially very severe, they were for the most part only of a passing character, and of the same general order as are encountered on all allied occasions. They are the outcome of crushing, crowding, fatigue, lack of air, direct solar radiation, thirst, and hunger, either combined or separately. The precise phenomena vary greatly. Taken collectively, they are of the nature of more or less marked collapse, and, for want of better names, are commonly entitled either syncope or heat-stroke. The military authorities, in whose practice cases of the same kind often occur as the result of long parades, use both terms, but only as temporary designations, not regarding as instances of heat-stroke cases in which high temperatures do not subsequently develop. Mr. James Cantlie, whose experience of street ambulance work is unusually wide, informs us that a good many cases of true heart syncope do occur, but for the most part in the conditions commonly called "a faint" the typical signs of fainting are absent. The face in many instances is flushed instead of pale, the pulse full and often bounding, the temperature of the body not reduced, and the patient, although inclined to "go off," is seldom insensible. In other cases the patient is dazed, the face round the mouth ashen in appearance or of a greenish-yellow tint, the pulse feeble, and the hands clammy; the condition, in short, resembles an early stage of sea-sickness. In another group of cases, generally among elderly people, the patient seems insensible, but the eyelids, although closed, tremble, the face and ears are of a leaden hue, breathing is very shallow, and the pulse steady but small and easily compressible, and the temperature of the body lowered. In young men the cause of faintness is in some cases retention of urine owing to the impossibility of getting out of the crowd, and in such the clothing is not infrequently found soaked with urine. In old men, also, retention of urine is a frequent cause of distress, and faintness occurs from the irritability consequent upon an enlarged prostate or contracted bladder.

But these, on the whole, are exceptional cases, and the etiology of the general run should probably be written down more or less vaguely as imperfect breathing and consequent accumulation of carbonic acid gas in the lungs, tissues, and blood, whatever the primary cause may be. The latter, in a majority of cases, may be the natural physical difficulty of breathing created by close packing of a crowd, especially when short individuals are concerned. But mere crushing does not account for everything, for there were numerous cases of collapse last Friday among the privileged persons on the Horse Guards Parade, who were in no wise crowded, as also among soldiers, and even in many of the clubs. It is the long continuance of the standing position which has often been accused of being responsible for the collapses that occur, but circulatory failure, as evidenced by an arrested or exceedingly feeble pulse, is not a constant or even very common feature in street ambulance work.

That overloading of the system with carbonic acid gas and general respiratory imperfection should be common in crowds is not remarkable. Apart from the crushing, the air at the disposition of the crowd, even when not under cover, is exceedingly impure, saturated as it is with emanations from the lungs, perspiring bodies, and clothing. The pollution of the air is especially evident when rain falls during the waiting time. The first effect of such rain is to cleanse the air; but as clothes dry the increase in the pollution becomes evident. The extent of the pollution and the heat, smell, and other "closeness" of the atmosphere, can, perhaps, only be realized by those who have had occasion to pass through a lane made by the police in a long-waiting crowd.

In conclusion it should be noted that our own representatives, and other expert persons who had an opportunity of observing the work done by all the organizations concerned, were much impressed by its quality. Great cleverness was shown by bearer parties in extricating collapsed persons from the crowd, and the treatment administered at the stations, even when not directly supervised by a medical officer, showed that those engaged in the work had been well trained.

That all this thoroughly effective work was largely done by purely voluntary organizations is a fact of which the country may well be proud. Its thanks are also due to those who did it, for these—with the exception of course of the military organizations—are men and women who give their time, energy, and knowledge to the alleviation of suffering without pay or reward other than that of the consciousness of work well done.

SCIENCE NOTES.

A new aspect of the problem of exhaustion of the soil is dealt with in *La Nature* of January 8th, and is concerned mainly with recent work of the American Bureau of Soils. It is a matter of common knowledge that no soil, however rich, will continue to produce crops beyond a certain limited number of years. This was attributed to exhaustion of the supply of mineral and nitrogenous material necessary for the support of vegetable life, and has led in the past to the various methods of enriching the soil by means of crude manure and various chemical substances. The plan of letting land lie fallow was also adopted with the same idea, and the principle of rotation of crops was employed on the view that the one crop would supply to the earth something which the preceding one had removed. An analysis of these views, in the light of modern investigation, brings out some curious anomalies. For instance, the amount of phosphoric acid and potassium salts in an acre of soil is enormous compared with the quantity which is added as manure, and it is not true, as has been maintained, that the latter contains salts in a more assimilable form. Schlossing has shown that plants can derive all their nourishment from very dilute solutions of such salts, even as dilute as one in ten million. Again, there are certain soils in America which resist all forms of cultivation, no matter how much manure and dressing is applied to them. In such cases there is evidently some factor hitherto unreckoned with. This, it is believed, is to be found on consideration of the excretory products given off by plants. Seventy years ago De Candolle observed that excretion took place in the pansy, and that the product was poisonous to other pansies. This important fact was ignored till recently, when it has been shown that plants excrete substances which are toxic to their own species but not to others. The existence of these vegetable toxins in the soil has been demonstrated by American workers, who have succeeded in isolating and identifying a certain number of them. Their experiments have indicated that fertility is not a function of the amount of mineral matter in the soil, but rather of the amount of toxin. The less toxin there is, or the more it is diluted, the better will plants grow, but their growth is independent of the concentration of the mineral salts. Such facts being well attested, it is evident that new methods of cultivation are called for. The object of such must evidently be to neutralize the toxins. Experiment has shown that chalk is capable of doing this. The toxins are readily oxidizable, and can be neutralized to some extent by the mechanical turning up of the soil. The action, however, is increased in the presence of certain elements such as manganese and magnesium. These have been employed experimentally and have given encouraging results. Another line along which investigation has proceeded is that of the employment of bacterial cultures. Nitrifying organisms have

been in use for some time, without pronounced success in some cases. Recently, however, some interesting results have been obtained by Bottomley in England and Stoklasa in Bohemia by inoculating soil with cultures of microbes. From what we now know it seems reasonable to attribute to these organisms an action in neutralizing the soil toxins as well as in fixing the nitrogen of the air. It may perfectly well be the case, too, that the recovery of fallow land is due in great measure to the neutralizing action of such bacteria. Such methods of cultivation are hardly beyond the experimental stage yet, but it appears not unlikely that a revolution in agricultural technique is impending.

POOR LAW POLICY AND MEDICAL REFORM.

AT a meeting of the Medico-Legal Society on May 24th, at which Sir JOHN TWEEDY took the chair, Dr. MAJOR GREENWOOD, Honorary Secretary of the Poor Law Medical Officers' Association, read a paper on the policy of the English Poor Law, with special reference to proposed medical reform.

Dr. Greenwood's paper opened with a historical survey of the growth of pauperism from the decline of feudalism previous to which the pauper, as recognized by the State, was unknown, although, of course, the very poor person was in evidence—to the Royal Commission of 1832. He considered that the principles laid down by that Commission, with certain modifications to suit the altered conditions of the times, were perfectly sound and trustworthy at the present day, and he examined closely the directions in which Mr. and Mrs. Sidney Webb proposed to alter them. With regard to the principle of early curative treatment, which was probably to many the most attractive feature of the Minority Report of the recent Commission, he maintained that to seek unduly to make the poor come to the doctor, or to allow the State medical man to search them out, would be as much resented as any similar attempt in a higher state of society. Another assumption underlying the medical recommendations of the Minority was that the curative treatment attempted would in most cases be successful. Imagine the cardiac, phthisical, and other cases of organic disease coming to the doctor in the very earliest stage. What then? The Minority did not believe in the "bottle of medicine" treatment. What curative treatment could free all these unfortunates, many of them degenerates and victims of hereditary taint? A few months' treatment in a sanatorium did not always cure consumption. In most cases it was the environment of the patient that told, and if he had to return to conditions that had had a good deal to do with the origin of his disease the ultimate outlook was not promising. That by early treatment in many cases much good could be done was, of course, a truism, but it was an assumption based on the slenderest foundations that the probable benefit to be derived from early curative treatment would counterbalance the evil likely to arise from the inquisitorial and pauperizing methods that must necessarily be employed to bring about even a trial of the system recommended. There was also a tacit assumption that poor persons would welcome this attempt to deal with their physical disabilities. This, in his opinion, was unwarranted. As to the principle of universal provision, the Minority, no doubt, got rid of a good deal of difficulty by proposing to regard all curative treatment of disease as a question of sanitation. But he preferred to regard sanitary and Poor Law questions from a separate standpoint, and looked with suspicion on the attempt to blend with the work of the sanitary authorities the curative treatment of ordinary disease. One reason for thus mixing up public sanitation with the Poor Law was the pretext that it would get rid of the stigma of pauperism and would not act as a deterrent in the case of applicants for State aid. The Reports insisted on the rarity with which public relief given by the sanitary authorities had resulted in confirming the pauper habit. As a large number of the recipients of that relief were in a much higher social position than the ordinary applicant for Poor Law relief, this proved very little. But it did prove that a much higher class would accept State relief when it was given on easy conditions and without any legal deterrent, such as disfranchisement. The policy enunciated in the Majority Report was sound in so far as it provided for a separate destitution authority, but some of the proposals were as far away from the principles of 1834 as those of the Minority. He believed the carrying out either of the Majority or the Minority proposals meant disaster to the medical profession. There were some 5,000 members of the Poor Law Medical Service, who would all be affected by the change, but their loss as Poor Law officials would be less than their loss as private practitioners. It would surprise some if they knew how many doctors relied almost entirely on their poorer patients for a livelihood. The Majority and the Minority recommendations pointed with certainty to an enormous increase of gratuitous medical work, and it would be little consolation to the practitioner that a unified medical service, even if adequately paid, was attending, at the cost of the State, patients who furnished the chief source of his income under the old system. Again, if a huge system of so-called provident dispensaries were inaugurated, little advantage would accrue to the practitioner by the enlisting of most of his poorer private patients in such institutions, and he was strongly of opinion that the net payments of these dispensary patients would in the aggregate be much less than what was now paid by the poorer classes for their medical attendance. He strongly urged that, both for the good of the nation and the medical profession, the efforts of reformers should be directed to a reform, not a break-up of the present system. The greatest defect of the present Poor Law was its administration; its substance was sufficiently sound. Indoor, outdoor, and child pauperism had all greatly declined during the last sixty years, and the figures recently brought by Mr. John Burns before the House of Commons on this point showed how little reliance was to be placed on exaggerated denunciations of the present system, and how easy it would be to go further and fare worse.

Sir WILLIAM COLLINS, M.P., in the discussion which followed, said that Dr. Greenwood had done well to warn the society and the public against undue expectations with regard to curative results following upon the earlier application of medical assistance in cases of illness occurring amongst the poor. It was the general tendency on the part of a layman, especially when that layman assumed the position of a benevolent despot, to overrate the advantages which could be secured by medicine. The layman looked upon the medical profession as a useful agency which could always be depended upon to patch things up, and visited it with his condemnation if it failed. Dr. Greenwood was wise also to suggest that in all attempts at remedial legislation the distinction should be borne in mind between efforts directed to deal with the individual for the benefit of the community and for his own benefit. An instance occurred when the Tuberculosis (Ireland) Bill was in Grand Committee. As originally drafted, the bill required compulsory notification of all forms of tuberculosis at the earliest stage. Such condition as chronic tuberculosis of the knee-joint or tuberculous meningitis would have had to be notified, the notification to be followed up by some kind of action. He proposed a modification, which was immediately accepted by Mr. Birrell, limiting notification to those cases in which the infection was liable to be carried to other persons, thereby making the compulsory portion deal with the individual from the point of view of the community and not from that of his own benefit. As he listened to Dr. Greenwood's paper he could not help feeling how necessary it was for medical societies to arrive at something like agreement as to the principles on which sanitary legislation should proceed. He would like to see a chair of sanitary legislation in the University of London. The Legislature was occupied more and more each session with dealing not so much with the wealth as with the health of nations, and although there were only nine or ten members of the profession in the House of Commons, the appeal which was constantly made to them for guidance was so enormous that it was very necessary some clear principles on such matters should be enunciated. As to the Minority Report, the attraction for him in that document—although he was not prepared to give all of it wholehearted support—was the attempt to unify the public services and the public health administration. As an old municipal hack, he knew from long experience how desirable such unification would be, and how

splendid the realization of John Stuart Mill's principle that in each local circumscription there should be but one elected body for all local business. In his admiration for the principles of 1834 he thought that Dr. Greenwood had overlooked certain changes in our social system which had taken place since that date, and might well be held to modify those principles. One such change was the growth in the knowledge of hygiene and of the reciprocal influence of health and environment To-day no wise hygienist or pathologist could disregard the connexion between poverty and insanitation. Dr. Greenwood had referred to the retrograde character of much recent legislation; but he (Sir William) defended the collective action of the community in dealing, for instance, with insanitary areas in London; while, as to the State feeding of school children—another subject of Dr. Greenwood's criticism—he held that this was the natural and inevitable consequence of the Education Act of 1870 Once the latter had been passed, responsibility as to the physical welfare of the child could not be declined.

Dr. F. S TOOGOOD criticized boards of guardians, and thought that it would be to the advantage of State medicine generally if boards of guardians were abolished and gave place to an authority of wider scope. He felt that every advance in the administration of infirmaries had been dragged out of the guardians by the medical officers.

Dr. GREENWOOD, in the course of a brief reply, agreed with Sir William Collins as to the desirability of unifying the Poor Law administration and the public service, but this was no reason for accepting all the suggestions of the Minority.

LITERARY NOTES.

A CURIOUS correspondence has recently appeared in the *Edinburgh Evening Dispatch*. Some one seems to have misunderstood the word "emphysema," which has lately been so much in men's mouths, and an "Irish Medical Student" wrote to point out that "emphysema is not a stomach condition, but is one in which there is abnormal dilatation of the pulmonary alveoli and air vesicles, with atrophy of the walls and obliteration of the capillaries." This drew the following remarkable reply from a correspondent who signs himself "J. Putnam Wheeler":

> With reference to the letter of "An Irish Medical Student," which appeared in your columns on Saturday, I beg to differ from his views. He has certainly proved his nationality, if he has not proved his case, for he flatly and strangely contradicts his own words.
>
> He says that emphysema is not a stomach condition, and then promptly proceeds to prove that it is. What else could "pulmonary alveoli and atropical vesicles" be except something that has to do with the stomach?
>
> Emphysema, on the other hand, I hold after many years of experience, is an inflation of the peritoneum (a serous membrane which contains all the viscera lying in abdominal and pelvic cavities).
>
> I should suggest that the Irish medical student in the case should leave such definitions and corrections to his elder and more experienced brothers of the medical profession.

Is this intended for what Artemus Ward would have called a "goak"? If so, it is like the German master's "most important choke" on the Schleswig-Holstein question referred to in *Vice Versa*. We do not wish to call in question Mr. Putnam Wheeler's wit, but we hope we may say of him without offence, as Holofernes did of Don Adnano de Armado: "His humour is lofty, his discourse peremptory, his tongue filed. . . . He is too picked, too spruce, too affected, too odd, as it were, too peregrinate as I may call it."

In the April number of the *University of Pennsylvania Medical Bulletin*, Dr. William Pepper discusses the medical side of Benjamin Franklin. The study of medicine was one of Franklin's chief interests. The degree of "Doctor of Laws" was conferred upon him by the University of St. Andrews in 1759, and he was afterwards known by the title of "Doctor." This may have led to his being taken for a doctor of medicine, but he did not hold a medical degree. Nevertheless, he was elected a member of several medical societies. He never studied medicine systematically, but he bought and borrowed a number of medical books, read and commented on them, and discussed with his friends various diseases and the methods of treating them. Although he did not practise medicine for gain, he treated a number of people for various ailments. He was a keen student of such diseases as came under his observation. He may almost be called a pioneer of hygiene, in which he was greatly interested. Among the medical subjects which Franklin discussed with his friends was the eternal question of diet. He wrote a letter in which he said:

> In general, mankind, since the improvement of cooking, eat about twice as much as nature requires. Suppers are not bad, if we have not dined, but restless nights naturally follow hearty suppers after full dinners. Indeed, as there is a difference in constitutions, some rest well after these meals; it costs them only a frightful dream and an apoplexy, after which they sleep till doomsday. Nothing is more common in the newspapers than instances of people who, after eating a hearty supper, are found dead abed in the morning.

He discussed exercise as a means of preserving health and the best forms to use, the influence of swimming, cold baths, and fresh air. The taking or catching of colds was a very favourite topic of Franklin's, and his nearest approach to a real medical article is on this subject. He held very sensible views, considering his day, and gave much sensible advice, which the world has been slow to accept. The modern treatment of tuberculosis is based largely on the open air mode of life Franklin so persistently advocated. He repeatedly stated that colds were caught by being in close, unventilated rooms in which were other people who possibly were already affected. He thought that damp clothes might cause colds, but that clothes wet with sea water would not, because, as he says, no clothes could be wet as water itself, and one did not catch cold while bathing and swimming. He recognized the epidemicity and contagiousness of colds. He also remarked that bathing would quench the thirst and stop diarrhoea, and that bathing or sponging with water or spirits would reduce the temperature by evaporation in fevers. He wrote a very capable letter on the heat of the blood and the causes thereof, and also upon the motion of the blood through the arteries, veins, and capillaries. He discussed learnedly the absorbent vessels and perspiratory ducts of the skin, and carried on experiments to prove his theories. Sleep, deafness, and nyctalopia all engaged Franklin's attention. He invented bifocal lenses for spectacles and a flexible catheter. He was much interested in medical education, and had decided views on the subject. Although Thomas Bond originated the idea of the Pennsylvania Hospital, Franklin created it, and was its first president. His letters on lead poisoning are wonderful, and would have been a credit to any physician of that age; his observations upon gout—and personal observations they were—are shrewd and exact. Small-pox and inoculation, cancer, yellow fever, fever and ague, sea-sickness, all claimed his attention. In many of Franklin's letters we note his interest in various drugs and in various methods of cure. He showed a healthy scepticism of all empirical remedies, when one considers the time in which he lived. Much could be written of his treatment of nervous diseases by electricity. Many patients consulted him, many doctors wrote to him for advice; even Sir John Pringle begs him to come and treat the daughter of the Duke of Ancaster. Franklin was not carried away by his temporary successes with this method of treatment—Franklinism as it has been called—but gives a very reserved opinion upon its value. He was interested in vital statistics and the mortality of different diseases. He wrote about the great death-rate of foundlings and among children not nursed at the breast by their own mothers, and the growing habit among the French to neglect this duty. He discussed the doctrines of life and death. His ability and knowledge in everything pertaining to medicine led the King of France to appoint him a member of the commission which investigated Mesmer, and it was Franklin who wrote the report. Even Dr. Jan Ingenhousz, physician to Maria Theresa and Joseph II, before inoculating the young princes, sought Franklin's advice. One cannot help being impressed by the fact that the majority of Franklin's friends seem to have been medical men, at least if we judge from the letters to and from Franklin. He corresponded, visited, and travelled with them, and they seem to have been his most congenial friends. Physicians dedicated their works to him, translated his writings into French, invited him to their meetings, made him a member of their societies, and received him always as one of their own body.

British Medical Journal.

SATURDAY, MAY 28TH, 1910.

OPERATIONS UPON THE INJURED HEART.

"WE now know," says Mr. Bland-Sutton in a clinical lecture we publish in another column, "that the heart is very tolerant of traumatic insults." He gives some remarkable instances of this tolerance, and no doubt was cognizant both of Elsberg's[1] experimental work on the animal heart and of Travers's[2] now historical case. Elsberg showed that after ligation of the entire heart at the junction of the lower and middle thirds of the ventricles and amputation of the distal part of the heart, complete recovery will occur. In Travers's patient, who was impaled on an iron spike, the wound in the right ventricle was so large and ragged that three fingers had to be inserted in the rent for temporary arrest of bleeding, and twenty-three sutures were required for closure. Yet the boy—who was not operated on till three hours after injury—lived eleven days, and died of slow leakage of blood into the pericardium, due not to sepsis but to defective repair in a small area of the badly damaged tissues.

Whilst, on the one hand, then, there is no obvious contraindication to operation in the apparent grossness of the lesion, on the other there are cases recently published which illustrate the importance of operating upon any and every penetrating wound of the precordium and its vicinity.[3] A woman of 56 was stabbed with a narrow-bladed knife in the breast and abdomen. For seven months she lay ill with symptoms of cardiac insufficiency, and at necropsy it was found that the pericardium contained over 2,000 c.cm. of old and recent blood effused from a wound of a small branch of the right coronary artery. Again, a man[4] died with all the symptoms of "heart-tamponade," and it was found that the blood in the pericardium had escaped from a needle puncture in the right ventricular wall.

Recovery has occurred even when operation has been deferred as long as thirty hours after infliction of the injury, so that the suggestion of Peck[5] (whose tabular analysis of 160 cases is more recent even than than of Vaughan to which Mr. Bland-Sutton refers) that the pericardium should be aspirated as a temporary measure when operation cannot be instant, deserves careful consideration. No doubt the intrapericardial tension serves to arrest further bleeding, but the pressure is felt chiefly by the auricles, so that their diastole is made difficult, and the aspiration factor is minimized. The consequent fall of blood pressure is more often the cause of death than the actual loss of blood. For the idea that direct shock is sometimes the cause of sudden and final cardiac arrest there is support in the description long since by Kronecker[6] and Schmey of the "co-ordination centre" in the interventricular septum. As a matter of fact, sudden death from punctured wound of the heart is not common.

Although there seems some reason for the view that wounds of the auricle are more often fatal than those of the ventricles, yet Peck's figures show that of cases that come to operation the auricular have decidedly the brightest outlook. Of 69 wounds in the right ventricle, 70 per cent. died; of 74 left ventricle, 60 per cent. died; whilst of 11 auricle cases only 36 per cent. succumbed.

It does not fall to many surgeons to suture a wound in the heart, but, as Peck says, "the rarity of the opportunity and the importance of prompt and definite action make it desirable that every surgeon . . . should be familiar with the best plans of operative procedure, in order that the choice of method may be instantaneous and the steps executed without delay."

Although "there is no unequivocal sign of injury to the heart," cardiac surgery has now reached such a point that the correct attitude in presence of evidence only presumptive is no longer to *wait* and see, but to *explore* and see. Thoracotomy, pericardiotomy, and manual examination of the heart are not dangerous proceedings; an unsutured wound of the cardiac wall, however small, is extremely dangerous, and the best interests of the patient are consulted by making sure.

No absolute rule can be laid down for the best method of exposing the heart. It may be seen from what Mr. Bland-Sutton says, and from many recent contributions to the subject, that the various methods have, each and all, advantages and drawbacks. Some are more likely to open the pleura; but this does not much matter when the pleura is already wounded. One exposes better the left side, one the right. Another method adopts the principle of enlarging the existent wound. The essential point is that the surgeon should be familiar with the difficulties that have beset those who have operated and with the means by which those difficulties were surmounted. It should be easy then to fit the means to the conditions of the particular case.

Every one is agreed that asepsis is of the first moment. An aseptic course cannot be expected for every case, since the original instrument of injury will seldom be germ-free, but no matter how urgent the symptoms, time should be spent in securing surgical cleanliness. Septic complications are not always fatal, however. In several of the successful cases, suppuration has occurred in the wound, sutures have been extruded, and empyemata have needed secondary operations; the pericardium has been reopened and drained of pus. The question of drainage cannot be settled off-hand. Certainly surgeons have been less inclined to drain of late, but if the same antiseptic precautions are observed at dressings as at operation, secondary infection by the drain should not occur. Salamoni,[7] indeed, has lately insisted upon the necessity for temporary drainage, and here again decision must not be dictated by rule but by the exigencies of the individual case.

The heart which will stand extensive lacerations, will stand also all the rough usage necessary in manipulations for suture even of posterior wounds, and should it strike work for the moment, rhythmical massage will generally restore contraction. Operative dangers come, in fact, not so much from the

[1] *Journ. of Exper. Med.*, N. Y., 1909, vol., lv p. 479.
[2] *Lancet*, 1906, vol. ii, p. 705.
[3] Fischer: *Frankfurter Zeitschr. f. Path.*, Bd. iv, Hft. i.
[4] Daube: *Deutsch. med. Woch.*, 1910, Nr. 6.
[5] *Trans. Amer. Surg. Assoc.*, vol. xxvii, p. 162.
[6] *Sitzungst. der Akad. d. Wissensch. zu Berlin*, 1884.
[7] *Archiv. génér. de chir.*, 1909, vol. iii, 9.

heart as from the pleura and lungs, and these risks can only be avoided where there are chambers for operations under positive or negative pressure. Vidal has already operated successfully under these conditions, but it must be a very long time before such conveniences are common enough to make it likely they will be at hand when wanted. If some method could be devised which, like the intratracheal cannula plan of Meltzer and Auer, is simple and yet effective in maintaining respiratory exchanges in the absence of respiratory movements, and has proved satisfactory in the hands of Alexis Carrel[1] for extensive intrathoracic operations in dogs, it would do a good deal to simplify heart surgery. It is fortunate that, when needed, anaesthesia by inhalation has given little trouble, and in any case with the present state of local anaesthesia there is no difficulty to apprehend from that quarter.

At the same time, in a number of cases in which operation has been attempted, the patient has died upon the table. No surgeon can face such a catastrophe with entire equanimity, but no patient ought to die of a heart wound simply for want of a suture. The heart is tolerant of handling, its tissues are tolerant of suture material, and healing, though it be by fibrous tissue and not as in the case of the vessels by new muscle cells, is rapid and permanent. Operated upon, a patient with an uncomplicated injury of the heart has one chance in three of recovery. Left alone his chances are desperately slender. It behoves all surgeons to make themselves so familiar with the technique of cardiac operations that such a patient falling into his hands will not have an iota less than his standard chances. There is no lack of opportunity nowadays for others besides students to receive instruction in and to practise the manipulations in the ordinary courses of operative surgery.

It should not be overlooked, in connexion with cardiac as with vascular surgery, that a great debt is owing to the many operators who have perfected their technique, and demonstrated the feasibility of extensive plastic repair upon animals.

RAIN-BEARING WINDS AND PHTHISIS.

IN a paper read before the Royal Medical and Chirurgical Society in 1900, Dr. William Gordon, of Exeter, called attention to the fact that the death-rate from consumption in certain parts of Devonshire bore a definite relation to the prevalence of rainy winds in those parts. In the debate which followed, a good many searching criticisms were advanced, and it was shown that several other factors besides the prevalence of rain-bearing winds might have exercised a determining influence. During the ten years that have intervened, Dr. Gordon has followed up the subject with a pertinacity that commands admiration, and has set himself the difficult task of investigating and appraising at their true value the various influences that had been advanced by his critics and at the same time of extending his inquiries over a much larger field. The results are stated in business-like form in a compact volume of 100 pages.[2] Statistical tables and shaded maps present the facts in the clearest manner, and go far to prove the truth of the author's contention that the prevalence of rainy winds has a most deleterious effect upon the course of consumption.

For reasons which he sets forth fully, Dr. Gordon has confined himself for the most part to an inquiry into the female death-rate from consumption in the greater and smaller areas that he has passed in review. Beginning with the area best known to himself personally, he shows and illustrates by a series of coloured maps that the parishes round and about the district of Okehampton on the edge of Dartmoor, which are the most exposed to rainy winds, present a much higher death-rate than do those parishes which lie in sheltered positions, although inhabited by country folk of the same race and of the same general habits of life. In the following chapter he gives the results of a close inquiry as to the influence of these winds in the streets of Exeter itself, and is able to show a preponderance of phthisis mortality in those streets which are directly exposed to them. The possible influence of soil and of varying degrees of poverty are duly weighed, but still the statistics point to the fact that the mortality is greatest in those streets along which such winds are apt to sweep. He concludes that the mischief is wrought by the effect of the wind upon the inhabitants as they pass along in their daily walks, and that dwellers on either side of such streets are equally affected. Taking a wider purview in his own county and comparing larger areas in Devonshire, the author is able to confirm by statistical evidence the relation which he demonstrates in the smaller areas; and finally, by careful collation of facts recorded by others, and notably by Hirsch, he is able to support his case by evidence from all parts of the world. The laborious inquiry made many years ago by Hirsch and introduced to English readers by Dr. Creighton, shows the world-wide distribution of phthisis, and its particular prevalence and mortality in certain districts, but the association with prevalent wet winds does not appear to have been previously emphasized.

Dr. Gordon's work, if confirmed by further investigation in districts where phthisis mortality is high, must have an important practical bearing upon the selection of sanatoriums for present cases and the selection of sites for future sanatoriums. Although death-rate statistics cannot be of much use in determining the relative merits of such institutions, it is probable, if Dr. Gordon's theory be correct, that the percentage of success in results must be greater in the sheltered than in the exposed buildings, and this should not be difficult to prove. The book is a notable contribution to medical science, containing as it does a series of carefully-thought-out deductions from ascertained facts, and incidentally illustrates the value of preliminary presentation of scientific investigations before a critical audience. Much of the most convincing evidence in the work before us would never have been cited had it not been for the keen criticism to which the initial inquiry was exposed ten years ago.

[1] Carrel: *Berl. klin. Woch.*, 1910, March 28th.

[2] *The Influence of Strong, Prevalent, Rain-Bearing Winds on the Prevalence of Phthisis.* By William Gordon, M.D., F.R.C.P., Physician to the Royal Devon and Exeter Hospital. London: H. K. Lewis. 1910. (Demy 8vo, pp. 117; maps 22. 7s. 6d.)

THE EDWARD MEDAL.

THE King has been pleased to award the Edward Medal of the second class to Mr. Evan Owen, Mr. Edmund Davies, and Mr. William Wagner Turner, M.B., in recognition of the gallantry they displayed on October 29th, 1909, in connexion with the rescue operations after the explosion at the Darran Colliery, in the Cardiff district, by which twenty-seven persons

lost their lives, five succumbing during the rescue operations. Mr. Evan Owen, the under-manager, was one of the first to enter the mine after the explosion, and in the course of the day accompanied several of the rescue parties to the furthest points it was possible to reach, being several times partially overcome by the effects of carbonic oxide. Mr. Edmund Davies, the day fireman, was also one of the first to enter the mine, and his determined and continued attempts to succour the unfortunate men below only came to an end when his services were no longer of any avail. Dr. Turner, who was the first medical man to reach the mine, displayed great courage by promptly going down the ladders in the upcast and pumping shaft—an awkward descent to anyone unacquainted with mining work. He rendered all the assistance he could, and nearly paid for his bravery with his life, as he was severely affected by after-damp. We hope to have the opportunity of publishing in an early number full details of the points of medical interest in connexion with this explosion.

CORONERS AND DOCTORS.

AN inquest was recently held by Mr. H. C. Yates on a female infant aged 7 months, who died in the Knutsford workhouse on May 14th. As it presents certain points of interest to medical practitioners in their relation to coroners we give a summary of the published details. It was stated in evidence by the father, a labourer at Sale, that the baby, which was one of twins, was nursed after his wife's death by his sister. Then the midwife who had attended the wife had the child for a week. After that the child was placed under the care of his mother, who had it five or six weeks. She had since died. Afterwards another woman took charge of it for a time. The child was fretful, and the nurses could not give it attention. Dr. Scott, who attended, gave the father some medicine for the child. It was afterwards taken to Dr. Graham Renshaw, who told him to bathe the eyes with alum and water. Later Dr. Adolph Renshaw saw the child, and advised him to bathe the eyes with borax and water. He afterwards recommended that the child should be taken to the workhouse hospital. Miss Mitchell, nurse, stated that the child was brought by the father on a Tuesday and died on the following Saturday. It was poor and emaciated. The eyes were closed, and there was a discharge of matter from them. The clothing was very filthy, but not verminous. From the first there was very little hope. Dr. Smith said he saw the child on Saturday, May 7th; it was emaciated, and suffering from ophthalmia. The condition of the eyes pointed to neglect; if the condition became chronic, it led to blindness. The child weighed 9 lb., whereas the normal weight was about 16 lb. The coroner mentioned that one doctor advised borax and the other alum and water, and asked whether, if this had been done properly, the child would have recovered. Dr. Smith said the treatment must be constant and systematic, otherwise there would be no improvement. He thought there was a strong possibility that, if the child had been properly cared for, it would have lived; but only skilled nursing could have saved it. The coroner told the jury that he was perfectly satisfied there was not sufficient evidence to justify them in placing the father on trial for manslaughter. The jury returned a verdict in accordance with the medical evidence, adding that the death was accelerated by want of proper care and attention. There is nothing in the evidence, as published in the *Sale and Stretford Guardian* of May 19th, that seems to us to point to manslaughter. So far we are in agreement with the coroner. But we think that Dr. Graham Renshaw and Dr. Adolph Renshaw may justly complain of the manner in which the coroner allowed himself to comment on the medical treatment without affording these gentlemen any opportunity of explanation. We are informed that he did not communicate with them in any way before the hearing. This is a matter as to which we have several times had occasion to speak. It is the coroner's duty to get all the evidence available in order that a true verdict as to the cause of death may be arrived at by the jury. For this purpose the testimony of medical practitioners who have treated the deceased during life is obviously of the first importance. In the absence of such testimony the effect of the evidence on which a judgement has to be based may be simply misleading. Under the Coroners Act, 1887, where the deceased was attended at his death or during his last illness by any legally qualified practitioner, the coroner *may* summon such practitioner as a witness. Although the Coroners Committee which issued its report a few weeks ago did not agree that the coroner is bound to do this, it expressed the opinion that every coroner should be empowered to call such medical witnesses as may be necessary for the proper determination of the case. It pointed out that in Scotland the coroner has a much freer hand in the matter of costs than an English coroner, and recommended that in regard to this the English should be assimilated to the Scottish system. The Committee further expressed the opinion that "to give coroners a somewhat wider discretion as to costs—a discretion possessed by all other courts—would go far to remove the friction which sometimes arises between them and the medical profession, and would, on the whole, be conducive to the efficiency of inquests and the public interest." Another point to which reference must be made is the impropriety of coroners or their juries criticizing the professional conduct of medical practitioners without giving them an opportunity of making a statement or explanation. These reflections go forth to the public with a quasi-judicial sanction, when often the doctors whose conduct is impugned could have set the facts in their proper light if they had been called upon to give evidence. This is a gross injustice which urgently calls for a remedy, and every effort will be made by the British Medical Association to influence the Government in this direction whenever any amendment of the Coroners Act is brought forward.

DANGERS INCIDENTAL TO THE SMELTING OF LEAD.

DR. EDGAR L. COLLIS throws an amount of energy and enthusiasm into his work which make his reports interesting. His recent report[1] on the dangers incidental to the smelting of materials containing lead, and the manufacture of red and orange lead, does not fail in this respect. So far as the manufacture of red and orange lead is concerned, the special rules at present in existence practically cover all requirements, and it is recommended that flaked litharge should be included. Within the last few years the number of cases of plumbism in smelting works has steadily risen. In the Potteries the percentage rate of plumbism among workpeople exposed to lead has been 1.5 per year, but in the smelting of lead ore it has been slightly over 3 per cent., and in spelter works just over 1 per cent. The incidence of plumbism varies in different factories according to the methods of manufacture and the character of the plant. Another

[1] *Special Report on Dangerous or Injurious Processes in the Smelting of Materials Containing Lead.* By Edgar L. Collis, M.B., H.M. Medical Inspector of Factories. London: Wyman and S[illegible]. Price 6d. [Cd. 5152.]

possible cause of the increase of notified cases has been the inclusion of lead poisoning in the Workmen's Compensation Act 1907. In the first six months of 1909, 37 cases of plumbism were reported as occurring in smelting works, as compared with 15 in 1904, and a similar increase occurred in the last six months. While the percentage number of persons employed as smelters presenting gastric symptoms is equal to that of persons in other employments which exposes them to lead, the percentage exhibiting rheumatic and paretic symptoms is slightly greater. In smelters the tendency is for the symptoms of plumbism to increase in severity with recurrent attacks. Dr. Collis found that in a first attack the percentage of slight cases was 61.4, and of severe cases 11.7; after a second attack the percentage of slight and severe cases was 35 4 and 29.2, and after a third attack the numbers were 6.2 and 37.5 respectively. The number of fatal cases of plumbism in lead smelters between 1899 and 1909 was 19; the average age at death was 43, and the average duration of employment 15 years. Plumbism developed under these circumstances is not due to the handling of lead, but to inhalation of fumes and the breathing of dust; 16 per cent. of the workers had no blue line on the gums. Lead smelters exhibit a slightly lower blood pressure than white lead workers, the average being 148.2 mm. Hg, as against 156.5. Any rise of blood pressure occurring in a lead worker is in all probability due less to the action of lead as lead upon the blood vessels than as the result of the action of the metal and its salts upon the emunctories, interfering with their eliminating powers. Sir Thomas Oliver has shown that the injection of lead nitrate into the blood vessels of animals is followed by a fall of blood pressure. In describing the processes of lead smelting Dr. Collis states that the dangers incidental to working at the furnaces arise during the charging of the furnaces, when fumes and dust are given off. There is in addition another danger which has hitherto not received the attention it deserves—that is, the escape of carbon monoxide from incomplete combustion of the fuel. Hofman found that the dust from the roof of a blast furnace contained 27.1 per cent. of lead, and the dust from a flue 15.8 per cent., while the amount of carbon monoxide in the gas escaping from the blast furnaces of smelting works varied from 1.5 to 10.8 per cent. Carbon dioxide, too, is present in considerable quantities. Persons employed in spelter works are exposed not only to the fumes of lead and zinc, but also to sulphur dioxide gas, to the inhalation of dust, and to extremes of temperature. After the age of 40 many of these men, according to German authorities, are so broken down in health by chronic bronchitis, gastric troubles, and nervous diseases that they are unfitted for hard work. A series of interesting statistics of plumbism in certain Continental lead-smelting works is given in the report, and the good effects following the introduction of means for the removal of fumes from the cupelling furnaces are mentioned. The three conditions believed to be essential to the prevention of plumbism in lead smelting works are: (1) Prevention of the escape of fumes; (2) reduction to a minimum of dust which may be raised, whether by the coming and going of the men or by currents of air; (3) accustoming the personnel to take certain precautions and to be clean. The German regulations for spelter and for lead smelting works and the regulations in use in France relating to certain industries in which lead is used are given in appendices. The regulations suggested by Dr. Collis, which appear in full in the text, would apply to 34 lead smelting factories, 8 spelter works, 17 factories in which red and orange lead are manufactured, and to 8 in which flaked litharge is manufactured.

THE DURATION OF INFECTION OF TSETSE FLIES BY TRYPANOSOMES.

Kleine's discovery that one of the trypanosomes (*T. brucei*) could develop in tsetse flies, so that a fly remained infective for sixteen or twenty days or more, led to the suspicion that our ideas of the prophylactic measures necessary to stamp out sleeping sickness must be completely modified. Colonel Sir David Bruce, with Captains Hamerton, Bateman, and Mackie—members of the Royal Society's Sleeping Sickness Commission for 1908–9—have been working lately at the question of the infectivity of tsetse flies in sleeping sickness areas, and, as will be seen by the report of their paper at p. 1292, have established many interesting and important facts. Their experiments go to show that under experimental conditions this development of trypanosomes takes place in about 5 per cent. of the flies used, that the shortest time that elapses before a fly becomes infective after feeding on an animal infected with sleeping sickness is 18 days, the longest 53 days, and the average 34 days. An infected fly was kept alive in their laboratory for 75 days, and remained infective during that time, while experiments made to test directly the duration of the infectivity of tsetse flies in nature apparently prove that they may retain their infection for at least two years after the native population has been removed from the fly area. The conclusion to be drawn from this is clear: natives cannot with safety be allowed to return to such areas until all infection has died out of the flies; how long this may take still remains to be ascertained. It is certainly difficult to believe that an individual fly can go on living for two years, and, if it does not, then fresh generations of flies must either derive their infection from some animal or animals living in the area, or the infection may descend hereditarily from infected flies to their offspring. Whichever of these explanations be correct, the prophylaxis of sleeping sickness, by attacking the infection in the flies, must necessarily be a much more difficult task than was hoped—so difficult, in fact, that enormous tracts of country along the edges of lakes and rivers may have to be given up permanently or for many years.

TETANUS AND THE MOTOR CAR.

According to the Registrar-General's returns there has been a sudden great increase in recent years in the number of deaths directly due to "tetanus"; and this in spite of our increasing knowledge as to its methods of invasion and the extensive use of antitetanic serum now prevalent. Taking the figures from 1889 to 1900, the average number of deaths in England and Wales was between 30 and 40. In 1900 it rose to 66, to fall again to 57 in 1901. Then came a sudden and unexpected increase. In 1902 the number rose to 201—almost four times that of the preceding year. This in itself might have been due to a fortuitous concatenation of circumstances, did not the returns for succeeding years negative the idea, and force one to the conclusion that some cause which came into force in or about 1902 must still be operating. The returns which show this are as follows: 1903, 257 deaths; 1904, 257; 1905, 248; 1906, 254; 1907, 226; 1908, 180. That this increase is a real and not an apparent one can, we think, be confidently asserted. The apparent increase in cancer, for example, is probably partly due to increased powers of diagnosis and care in certification on the part of the profession; but such a view can scarcely be maintained regarding tetanus, for the

clinical picture of the disease is so striking that even the layman can diagnose it, and its symptoms were perfectly well known and had been carefully studied long before Kitasato's brilliant researches settled its microbic origin. The increase, therefore, in recent years can scarcely be other than a real one. When we come to the causes, however, of this great rise, we are, it must be confessed, upon much more uncertain ground. One of these causes, however—perhaps the most important—would seem to be connected with the great increase in the use of motor cars, which has been such a noticeable feature in the advances of recent years. On *a priori* grounds one would have thought that such an increase in mechanical traction, and the consequent diminution in the number of horses employed in large cities, would have tended in quite the opposite direction—for it is well known that certain animal excreta may teem with the tetanus bacillus; the gradual disappearance of horses from the streets and main roads ought, one would have thought, to have tended to purify these arteries of traffic, and coincidently lowered the death-rate by removing the source of infection. Unfortunately this comfortable theory has not proved correct in practice—and the cause is not far to seek. The weak point in the argument has been that although the amount of animal excreta has been sensibly diminished in the streets, yet the distribution of what has been left has been greatly increased by the dust raising powers of the motor-car, and germs have thus been spread far and wide over an area greater than heretofore. It is this greater distribution, therefore, which to our mind explains the sudden and surprising increase which has been steadily maintained from 1902 to 1907. The slight fall in 1908 is distinctly hopeful, and is probably largely due to the fact that the supply of horses has been diminishing more rapidly than in previous years, now that it has been proved commercially that horse-traction cannot compete with mechanical. It remains to be seen whether the returns for 1909 will maintain this decrease. We sincerely hope so; but improved conditions cannot be obtained until either animal excreta disappears from our streets, or some efficient dust-laying contrivance checks the distributing power of the all-pervading motor car.

THE ACCOUCHEMENT OF ROSA THE PYGOPAGA.

PYGOPAGOUS twins enjoy certain advantages—they are entered on the roll of teratological fame which many normal mortals may hold to be far better than no fame at all, and they need never starve if they have no objection to appearing in public. They are hardly repulsive like the miserable "What is it?" the childish cretin which, as Mr. Arnold White informs us in *The Great Idea*, is often made a show of in caravans to gratify the morbid instincts of the British and American public. The two headed nightingale who was in England in 1871 was sweet-voiced, though far more African in type of beauty than her, or their, portraits accompanying the showman's advertisements led us to believe. In 1891 another teratological phenomenon of this type, a pair of sisters 13 years of age, appeared in public, and were described by Marcel Baudouin as *les sœurs Rosa-Josepha Blazek, le Pygopage du théâtre de la Gaîté*.[1] He described the maidens, as they both then were, as intelligent young girls of independent tastes. One liked beer, the other preferred wine, one was partial to salad, the other detested it, one could watch while the other slumbered and the radial pulses were not synchronous. They conversed in the Czech or Slavonic Bohemian speech, and Baudouin was a little sceptical about various statements which they made as to their relative psychology. The Czech language is not universally understood in Paris, and questions about synchronous fear and courage, love and hate, and so forth, are not easy to frame, nor are the replies always readily understood. When comprehensible in this instance, they were, it appears, rated as *une foule d'historiettes amusantes*. One point was made clear. There was but a limited area of common sensibility in the lower extremities of these twins; hence the caudae equinae must have been almost distinct. It was otherwise both with Judith-Helena, the Hungarian sisters, immortalized in the fiftieth volume of the *Philosophical Transactions*, and also with our old acquaintance, Millie-Christine, the Two headed Nightingale, who sang duets in London nearly forty years since, and has, it appears, retired on a fortune. Rosa-Josepha Blazek—*le pygopage de la Gaîté*—returned to Bohemia—the Slavonic, not the Parisian. Last April, when old enough to know how to look after themselves, they made their appearance at the General Hospital, Prague. Rosa was troubled with an abdominal swelling. Then followed a delicate investigation of a type too familiar to all who understand female patients in trouble. When the possibility of pregnancy was suggested, both sisters gave "categorically negative replies." Josepha, however, was clearly less reliable than Jeannie Deans; a clandestine intrigue was physically impossible, whilst a marriage might have been kept secret for fear of the question of bigamy. Anyhow, Rosa must have been beloved, for before Professor Pitha could be summoned to the surgical clinic she was delivered on April 17th last of a fine boy. The mother and child are doing well, but sister Josepha, who was unavoidably present when Rosa was delivered, must be taken into account. Dr. Trunecek publishes a conjoint report of Rosa-Josepha, drawn up by Dr. Pitha when he examined the twins on April 29th, the twelfth day of the puerperium. He found that they were united posteriorly by the sacrum which was common to the pair, and by separate iliac bones. Accurate measurements of the pelvic inlet and outlet could not be taken; Rosa, the mother, clearly had a satisfactory pelvis, since it allowed of the birth of a well-developed male infant. There were lineae albicantes on her abdomen and not on her sister's, but the linea alba and nipples were pigmented, and milk was secreted by the breasts of both. The twins were accustomed to lie on one side, Rosa's left and Josepha's right. The external organs were easy of inspection and had become rotated in a strange manner. There was a common anus and perineum; the anus opened inferiorly—that is, towards the side on which the twins lay. The vulva had rotated inwards and upwards at a very early stage of development and became absolutely fused, hence the clitoris looked towards the side of the twins which was uppermost when they lay down. The labia majora alone were double, starting each from the perineum, running to the symphysis, and then turning backwards to meet its fellow anterior to the clitoris. Hence the labia minora and vaginal outlet lay framed by a lozenge-shaped fleshy ridge formed by the labia majora. Below the clitoris a wide common meatus urinarius was detected. The urethra was also single for an inch above the meatus, then it bifurcated; Rosa had undergone lithotrity a few years ago, and there remained traces of cystitis; the ureters opened normally. In Josepha's bladder those ducts both opened on the right of the

[1] *La semaine médicale*, July 8th, 1891, reprinted *ibid.* May 18th, 1910, as an appendix to Dr. Trunecek's article on which the above paragraph is founded. When we see *le pygopage* described both as *elle* and *elles* in these reports, we must conclude that the description of pygopagous twins is even more trying to the French than to the English grammarian.

median line, one above the other. Desire to micturate was distinct in the twins; with defaecation it was otherwise; there was a rectal ampulla into which the great intestine of each twin emptied itself 2 inches above the anus. The septum of the vagina was extensively torn, and Josepha, the maiden, or rather the single patient, had suffered laceration of the posterior wall of the vagina on her side extending to the perineum. Rosa's uterus was as big as a fist; but its appendages could not be defined on palpation. It is interesting to learn that on Josepha's side not only was the uterus of the perfect nulliparous type, small, anteflexed, with ill-developed cervix and os externum, but the vagina was of the same type, with well marked rugae, whilst on Rosa's side the mucosa was hypertrophied and smooth. These distinctions were clearly indicated above the lacerated septum, which was visible at the common vaginal orifice. Rosa treads mostly on the left foot during progression, while Josepha walks entirely with her right foot. The point of the left great toe touches the ground. Pygopagi being of necessity one-yolk, or uniovial, twins are always of the same sex. "Pigeon," or male and female twins, are developed from separate ova, and never display certain well-known features frequent in one-yolk twins, acardiacus acephalus, and parasitism, for example. One-yolk twins, even when perfect, are more often female than male, and all the pygopagi—Walther's, Treyling's, and the three above mentioned—were girls.

A MUSEUM OF MOULDS.

IN *La Nature* for February 12th there is an account of an interesting collection of moulds which is kept in the École supérieure de pharmacie in Paris. These have been gathered together since 1903, and to-day they form a veritable museum. They are maintained in the living state, and present objects not merely of curiosity but of scientific study. A thoroughly reliable knowledge of these mysterious plants has, until recent years, been lacking. Their omnipresence and the important part which many of them play in the domestic relations of man render such a knowledge highly desirable. The methods employed at this Paris museum are comparable to those which have been used with so much success in the case of bacteria and other lowly organized forms of life. The nutrient media naturally are of a different order, but the principles of treatment and isolation are much the same. Prepared liquorice root is the medium most commonly employed. Moulds are brought in from all manner of sources. Frequently they are in mixed growths, and the spores of each have to be carefully separated and sown with sterile precautions on the prepared media. In this way pure cultures are obtained, and there is the assurance in further study of the growth that one particular organism is being observed and not a mixture. Previously errors had in many cases arisen from this very cause, and observations made on certain growths were confused through contamination with other forms. The collection contains all the moulds familiar to us which grow on articles of food and faeces, and in addition numerous others which occur on various kinds of decaying animal and vegetable matter.

HOSPITAL ABUSE IN AMERICA.

IN no city in the world is the chase after the nimble dollar commonly reputed to be more active than in Chicago, so it is somewhat instructive to note that the medical members of the population of that city have hitherto shown themselves hardly more awake to their financial interests than their colleagues in this country. It is clear from a paper recently read before a local medical society by Dr. C. J. Whalen[1] that the abuse of hospitals and dispensaries is at least as rampant in Chicago as in this country. The author endeavoured to represent the effect on the medical profession of this abuse in terms of hard cash. His figures are based on investigations conducted by the Charity Bureau of the city, and the Chicago Medical Society, as well as on his own inquiries. Apart from patients treated at the public hospitals, he put forward reasonable ground for assuming that about 25 per cent. of the whole population of Chicago habitually receive free attendance at the various dispensaries in the city, whereas only about 1 per cent. of the population is in receipt of charity other than that of a medical kind. On this basis, and averaging the number of treatments each patient receives as two and two-thirds, he calculates that the abuse of the dispensaries spells a financial loss to the local medical profession of over two and a quarter million dollars. From the statistics of the seventy-three hospitals in Chicago he concludes that the treatment gratuitously accorded in their wards to patients who never expect or receive any but medical charity should rightly mean an annual payment to the medical profession of two and a quarter million dollars. Finally, as the result of inquiries, he computes that the 3,000 medical men in Chicago exercise between them private charity in the way of remitted and reduced fees to the extent of about one and a quarter million dollars. Hence the total of the work done by the medical profession in Chicago without adequate, if any, return reaches the total of five and three-quarter million dollars. This seems an enormous sum, but in view of the figures on which it is based by no means incredible: when divided up among the total number of medical men in Chicago it represents about £350 a head. In respect of dispensary or out-patient abuse Dr. Whalen suggests no very specific remedy; but in respect of hospitals he expressed the opinion that sooner or later the system which offers to every medical man the opportunity of placing his patients in any hospital he or they may elect, there to treat them with all the freedom of a legally qualified practitioner of medicine, will be adopted. This equality of hospital privilege could not, he considers, fail to work for the general elevation of all concerned. The causes to which he attributes the abuse of medical charity in Chicago are much the same as those which have been held to account for similar conditions in this country; but it should be added that in Chicago at present even the very ineffective precautions by which hospital authorities in this country endeavour to safeguard their portals do not appear to be in general use. Moreover, there is a form of hospital abuse in Chicago which has only just commenced in this country, since patients sent in by corporations of various kinds in return for annual payments are commonly admitted to free treatment so far as the medical staff is concerned.

THE CHURCH RED CROSS BRIGADE.

IN an account of the first-aid work in connexion with the recent funeral ceremonies, published elsewhere in this issue, there is a reference to an ambulance organization not yet familiar to most people. It came into being upwards of half a dozen years ago, its official title being the Church Red Cross Brigade for Women and Girls. Its originator and present Commandant, or organizing secretary, is the Rev. T. Milner, and the chief staff-officer, Captain Langford Lloyd, D.S.O., R.A.M.C., who is adjutant of two of the London divisions of the Territorial branch of the Royal Army

[1] *St. Louis Medical Review*, March, 1910.

Medical Corps. The governing council includes H.S.H. the Duchess of Teck and Princess Henry of Pless, and the wives of some thirty bishops. Among the members of the executive committee are the late and present directors of the Army Medical services. The objects of the brigade as officially stated are "to make girls more useful in the home; more valuable to their country; more sympathetic with the suffering; more truly followers of Christ." In some degree the body is a sister organization to the Church Lads' Brigade, except that those admitted are considerably older as a rule, and there is no limit of age in respect of continued membership. The general organization is of military type; each local division is termed "a company" and is in charge of a lady captain, two lady lieutenants, a male adjutant—a man with some knowledge of military and other drill—a chaplain in the person of the vicar of the parish, and of some medical man who is prepared to give his services as lecturer with the designation of surgeon-captain. From the first, courses of instruction in first aid and home nursing were an essential feature, but recently the subject of sanitation has been added, and with the assistance of the medical officers the scientific education afforded is being worked up to a comparatively high standard. In addition the girls meet weekly for musical and other drill. This, from the point of view of their health, is considered to afford most valuable results; most of the young women who belong to the brigade are employed by day in workrooms or offices, and officers of the corps state they often see delicate-looking anaemic girls develop into healthy young women, with manners, deportment, and self-respect correspondingly improved. It is also considered that membership of the corps exercises an abiding moral influence apart from any specific religious instruction, because the girls are led to devote their spare time and energy to work which has for its aim the benefit and help of fellow creatures. The corps, we are informed, has made very rapid progress during the past few years. It now has eight flourishing companies in London parishes, and there are a good number dotted all over the country. Branches are also being formed in Canada and South Africa. The London companies were allowed to contribute a certain number of members to take part in the ambulance work on the day of the funeral, and a representative of the JOURNAL who watched their work came to the conclusion that they did it well. The brigade has its head quarters at 155, Edgware Road.

MODERN FOOD SUPPLIES.

THE remarkable changes of the latter half of the nineteenth century in the means of communication and transport have enormously altered commercial and industrial relations. Improvements in machinery and vastly increased competition have also made a lasting impression. The appearance of railways, the post office, telephones, sounded the knell of small and local enterprises and prepared the way for gigantic combined industries. A review of these changes as they affect the preparation of foods and foodstuffs has recently been made by Professor Lindet of the National Agronomic Institute of France. Reference is chiefly to French industries, but some of the points are of general interest. In the manufacture of bread, the old millstone, which had done duty for centuries, has since 1884 rapidly been replaced by more efficacious and economical machinery. This has caused the disappearance of the old country mills, and has ensured the production of a much finer flour. In the actual baking of bread there has not been such a noteworthy change; the necessity for the early delivery of fresh bread every morning still enables the local baker to maintain his place. Attempts at wider organization and co-operation have only been to a certain extent successful, but greater progress in this direction may be expected with the cheapening of motor conveyance. In the wine industry similar changes have been effected. Keen competition, bad years, the ravages of vine pests, and the introduction of many chemical novelties, have rendered the old family vintages, famous for centuries in many cases, unable to keep abreast of the times, with the usual result that they have been bought up to form part of larger concerns. With large capital these have been able to meet successfully various emergencies and to apply scientific methods to what has become a national industry. Of more interest to us are the facts with regard to milk, butter, and cheese. The growth of towns has necessitated bringing the larger part of their milk supply from a considerable distance, and has led to the great increase in milk traffic on railways. Two-thirds of the milk supply of Paris is brought in by rail. This has called for elaborate methods of keeping the milk fresh and pure. The establishment of large milk companies has tended largely towards the standardization of the milk supply, for instead of receiving the milk from one or two cows the customer obtains a uniform mixture from thousands of cows, and he has the assurance that it will always be pretty much of the same strength and quality. Private butter-making is giving place to commercial enterprises on a large scale. Butter-making has become such a fine art, involving so many complicated processes, that the individual has been unable to afford the latest improvements in machinery. Much the same applies to the making of cheese, although in both cases certain circumscribed localities and small dairies, with a well-established reputation, are able to maintain their place on the market. The manufacture of margarine and other substitutes for butter has had an important effect on the butter trade, and has led to much legislation with the object of preserving agricultural interests. In France in 1908 the amount of butter substitutes manufactured was more than one-fifth of the amount of butter. The production of sugar, unlike that of butter and cheese, has never been an individual business. It has always involved costly plant and a large number of hands. Even here, however, the tendency for businesses to grow and for smaller ones to be merged in them is very marked. In 1870 there were in France 520 sugar manufactories, each producing an average of 770 tons. To-day there are only half that number, but their average production is four times as great. Such is the movement—gradual, it is true, but none the less certain—which is creeping into our industrial customs, and which owes its initiation to the demand for better and cheaper production. Its future developments will be interesting to witness, and perhaps we may live to see the realization of Robida's facetious scheme for laying on food supplies by means of tube from a great central kitchen.

HUNTER'S FREE-MARTIN.

THE history and etymology of the free-martin was discussed in some paragraphs bearing that heading in the JOURNAL of May 7th, p. 1125. Mention was made of an important monograph on the subject by Dr. Berry Hart.[1] That observer reports the histology of the sexual gland in one of Hunter's specimens. Microscopic sections were made under the direction of Dr. Arthur Keith, the Conservator of the Museum of

[1] The Structure of the Reproductive Organs in the Free-Martin, with a Theory of the Significance of the Abnormality, *Proc. Royal Soc. Edin.*, vol. xxx, Pt. III, 1910.

the College of Surgeons, by permission of the Council of the College, and Dr. Hart examined the slides and made photomicrographs. These specimens, although now nearly a century and a half old, are in perfect preservation, and it is still more remarkable that the microscopical sections, cut in celloidin and stained with logwood and eosin, show even the finer details in a recognizable manner. They have proved that in Hunter's cases the sexual glands are testes, the adjacent structures epididymis, and that the tubuli seminiferi are distinct, although in only one are spermatozoa present. They display the condition usually detected in undescended testes in man and in the normal testis before its complete descent. In none of the sexual glands are ova present. Dr. Berry Hart therefore concludes that the free-martin, when the co-twin is a potent male, is a sterile male and not a sterile female; in other words, the twins are identical males except in their genital tract and secondary sexual characters. In conclusion, Dr. Hart discusses the free-martin according to Mendelian principles, which lead to the same conclusions. The free-martin is a bull, not a cow, and, says Dr. Hart, "the term pseudo-hermaphrodite means nothing."

THE LATE KING EDWARD VII.

THE following reply to the letter of condolence on the death of King Edward VII, addressed to the King and Royal Family by the Chairman of Council in the name of the British Medical Association, has been received:

Home Office,
Whitehall,
24th May, 1910.

Sir,

I am commanded by The King to convey to you hereby His Majesty's thanks for the Loyal and Dutiful Letter of the Council of the British Medical Association, on the occasion of the lamented death of His late Majesty King Edward the Seventh.

I am, Sir,
Your obedient Servant,
WINSTON S. CHURCHILL.

The Chairman of the Council,
British Medical Association,
429, Strand, W.C.

At the Memorial Service for King Edward VII held in Westminster Abbey the British Medical Association was represented by the President, Sir William Whitla, of Belfast, and the Past-President, Dr. Sinclair White, of Sheffield.

THE Croonian Lectures before the Royal College of Physicians of London will be delivered by Dr. F. W. Andrewes on Tuesdays and Thursdays, June 14th, 16th, 21st, and 23rd, at 5 o'clock on each day. The subject of the lectures is, the behaviour of the leucocytes in infection and immunity.

THE annual meeting of the Research Defence Society will be held in the rooms of the Royal Society of Medicine on Friday next, June 3rd, at 5 p.m., the Earl of Cromer in the chair. The speakers will be Sir Douglas Powell, Sir David Bruce, Mr. Anthony Hope Hawkins ("Anthony Hope"), and Mrs. Scharlieb.

A SPECIAL permanent commission has been appointed at the French Ministry of Public Instruction for the preparation of a new edition of the *Codex Medicamentarius*.

IN compliance with the wishes of His Majesty the King, Fleet Surgeon A. R. Bankart, M.V.O., took part in the funeral processions in London and at Windsor. Fleet Surgeon Bankart attended the late King Edward when afloat during the whole of his reign.

General Medical Council.

NOTES.

The Business of the Council.—The first day's session of the Council was distinguished by the business-like brevity of its proceedings. As usual, there was an early adjournment to enable various committees to complete their reports, but the whole of the business on the programme for the day was completed even before the time for adjournment. It is probable that during the greater part of this session the Council will be occupied in the consideration of disciplinary cases.

The Death of King Edward VII.—The President's Address commenced with a tactful allusion to the death of the late King and to his interest in medicine and hygiene, and it was decided to send to King George an address, similar to that sent after the death of Queen Victoria.

The Need for Amendment of the Medical and Dentists Acts.—The recent decision of the House of Lords was alluded to as not only weakening the operation of the Dentists Act but also showing the necessity for a reform of the Medical Acts, which at present give rather less protection to man than is afforded by the Veterinary Acts to the lower animals; the door is thus opened to the exercise of endless ingenuity in the adoption of descriptions which shall not fall within the narrow interpretation of the words of the Acts. But there was a ray of hope, also, for the inquiries instituted by the Local Government Board at the instigation of the Privy Council have proved to be more fruitful than was at one time expected. It had been thought that the inquiry as to the prevalence of unqualified practice having been addressed to the medical officers of health, who were not directly in contact with practice, might disclose little, and it is an open secret that in some cases only perfunctory answers were, in fact, received. But in other cases an exhaustive inquiry was set on foot, and the replies received are described by the Privy Council as forming "a large body of valuable and important evidence," and such parts as it is deemed expedient to publish will be issued as a Parliamentary paper. It is to be hoped that there will be no undue delay in this publication, which should go far to influence both public and parliamentary opinion with regard to the necessity of more effective legislation. Subsequently Dr. Latimer pointed out that, whilst legislation dealt with the preservation of the public health in such directions as sanitary regulations, factory laws, and in other less direct ways, little was being done to secure adequate protection when disease had necessitated treatment, and he expressed the hope that it might be enacted, amongst other things, that the exact constitution of proprietary medicines should be disclosed upon their labels, so that if people persisted in buying them they would at least know what they were taking.

The Revision of the Medical Register.—Since the last session the revision of the *Medical Register* has been completed, a task of no small magnitude, as the first inquiry involved sending out no less than 37,330 letters, while a second series addressed to those who had not replied to the first numbered 4,922. The final result was that 960 names had to be removed under Section XIV of the Medical Act, 1858, since no communication had been found possible with these individuals. In all probability, however, a large number of them will ultimately come to be restored. Certain arrangements have been made which will facilitate the keeping of the *Register* in a more correct form; the Colonial Office, for instance, has undertaken to furnish annually a list of those in their service, and the Registrars-General for England and Wales and Scotland will be supplied by the Council with copies of the *Register*, and will distribute them to the superintendent registrars of deaths, with instructions that the names of all practitioners signing death certificates in the year shall be looked up; a somewhat different arrangement, but with a similar object, has

been made in respect of Ireland. The net expenditure proved to be surprisingly small, only £164, the cost having been largely defrayed by the fees paid for re-registration by those whose carelessness in replying had led to confusion.

The Apothecaries' Society of London.—Allusion was also made to the bill introduced by the Society of Apothecaries under which power was sought to grant licences in various subjects, and to make them registrable, although some of them were not registrable when granted by other bodies. This bill was ruled out by the Speaker, who held that the matters it contained were not appropriate to a private bill. In this connexion it may be added that in future all bills when printed will be forwarded to the General Medical Council, so that matters occurring in private bills which may touch the interests of the profession may not be overlooked.

The Apothecaries' Hall, Dublin.—The appeal of the Apothecaries' Hall, Dublin, to the Privy Council with regard to the refusal of the Medical Council to recognize its newly instituted preliminary examination was met by the reply that the matter did not come within the official cognizance of the Privy Council.

THE BRITISH MEDICAL BENEVOLENT FUND GUILD.

By the invitation of Sir Alfred and Lady Fripp, a drawing-room meeting was held at their residence in Portland Place on May 25th in support of the Ladies' Guild of the British Medical Benevolent Fund. The chair was occupied by Mr. HENRY COSMO BONSOR, Treasurer of Guy's Hospital, who described the objects of the Guild, the first of which was to help the Fund by obtaining additional subscriptions, and the second, to assist its beneficiaries by personal service, and generally to bring aid and encouragement to the necessitous families of medical practitioners.

In proposing a resolution pledging the meeting to do its utmost to support these objects, Mr. S. O. BUCKMASTER, K.C., paid a notable tribute to the profession. I have always been of the opinion (he said) that you should judge a profession by the best that it produces; first, because it shows what a profession is capable of, and, secondly, because, after all, the standard of the best men is the standard which the others try to reach. Judged by that standard, there is no profession in the world comparable to that of medicine. I have accompanied great surgeons and physicians when they have gone round the wards of the hospitals, and I have seen how the faces of the patients lighted up as they passed by. The privilege of giving pleasure is one of the greatest that any profession can possess. Yet, as you well know, for many medical men the struggle is a hard one, rendered additionally difficult, and to my mind even terrifying, by the fact that, however disheartening the warfare, appearances must always be kept up. At the same time, while the medical man is keeping a brave face and occasionally finding it a struggle to pay his butcher's and his baker's bills, his services are at the beck and call of any one who likes to come and demand them, and he knows that often the payment he is to get, even if it be adequate, will be long, and sometimes indefinitely, postponed. There are many instances of the work these men can, and do, render free. Think of our great hospitals in London. They are the finest monuments, not only of the philanthropy of our people, but of the public spirit and generosity of the medical men themselves. Remember the time that they give ungrudgingly to the very poorest. Wherever stress and suffering find a resting-place they are to be found. Their foot is never so fleet as when it ascends the staircase of the poor man's home. Again, remember the work of the doctor in such events as railway accidents. The nearest doctors are sent for as a matter of course. People do not send for the lawyers to make their wills, but they send for the doctors to bind up their bodies. And, save in the rare cases in which the doctor stumbles upon a rich person who has been injured, his work goes practically unrewarded. Moreover, it should not be forgotten that the work of their profession places them hour by hour in close contact with risks which the rest of us shun. Yet they possess no special immunity. They are as liable to contract sickness and to bring it home as any of us. Another instance of heroism which has always appealed to me as being one of the greatest of modern times is that of the *x*-ray martyr. We have been told of one man who lost an arm owing to his work with the rays, and then pursued his beneficent labours with the other limb. When that also failed he was left without aid except in the shape of charity or a Government grant. That example of self-sacrifice, manifested perhaps in a smaller degree and in a different form, is multiplied in the ranks of the medical profession all over the kingdom. I am confident that in appealing to you to use your influence, your energy, your money to promote a cause the object of which is to assist distressed members of the profession and their dependants, I shall not appeal in vain.

The resolution was seconded by Mrs. FINN, of the Distressed Gentlefolks' Aid Association, who said that it was almost necessary to go out into a land where there was no proper medical service in order adequately to appreciate the doctor at home. She and her husband had had the happiness of establishing a hospital in Jerusalem and of bringing competent physicians to that city, which, with its thousands of inhabitants, had not previously a single doctor.

Sir ALFRED FRIPP, in apologizing for the absence of Dean Russell Wakefield and Dr. Arthur Latham, said that when the Guild was initiated last autumn the first appeal was made to the wives of the senior members of the profession, and the meeting that day was in the nature of an appeal to the wives of the junior members. Something also might be done if the successful practitioner would apply to his grateful and wealthy patients. A number of quite voluntary subscriptions had been received merely as a result of sending out invitations to that meeting. One gentleman wrote that he wished to endow a fresh annuity of £20, and had offered to guarantee this sum every year if the British Medical Benevolent Fund would allow the first recipient to be nominated by himself. The reason why he made this condition was because he knew an old doctor whom he wished to benefit for as long as he lived, and at the death of this annuitant the nomination would be in the hands of the Guild. Other subscriptions of two guineas had been received from Mr. Cosmo Bonsor, Mrs. Ronald Greville, Mr. Harold Begbie, and others.

Dr. SAMUEL WEST, in moving a vote of thanks to the Chairman and speakers, said that he did not remember ever having heard the claims of the medical profession to public appreciation put so eloquently as in the speeches of Mr. Buckmaster and Mrs. Finn. This drawing-room meeting was more or less a Guy's meeting. Guy's had always been to the front in work of this kind, but he hoped to see a St. Bartholomew's meeting and a St. Thomas's meeting follow in due course, and, indeed, to see a whole series of hospital drawing-room meetings in support of the Guild. It was not only the senior and the junior members of the profession to whom an appeal might be made—the students might also be asked to help. In the course of his lectures he was in the habit of giving general advice, and he always took the opportunity of urging medical students to perform two essential duties: in the first place, a duty to themselves, to insure their lives as soon as they could afford it; and, in the second place, a duty to their profession, to help systematically some charity which would benefit the less fortunate of their fellow practitioners. The sooner the students got to know of the existence of the Fund and the Guild the better.

The meeting was brought to a close after Lady TWEEDY, the Chairman of the Guild Council, had given some interesting and touching details as to the personal assistance which the Guild had already been able to give. They had found homes without blankets and coals, and the provision of these things had been followed by extraordinary gratitude on the part of the recipients. The personal service which the Guild was called upon to render was very diverse. It ranged from the provision of eye-glasses and ear-trumpets to making arrangements for the emigration of a family.

Sir Alfred and Lady Fripp were warmly thanked for their hospitality.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Glasgow Practitioners' Widows and Orphans Fund.

Some time ago the medical societies of Glasgow appointed a joint committee for the purpose of considering the feasibility of forming a fund for widows and orphans of medical men residing in and around the city. The committee has reported that such a benevolent fund could be successfully inaugurated; it has suggested the following scheme as a basis, and recommends that if it be generally approved, a committee of one member from each society should be appointed to draw up rules and regulations.

1. Members to be medical practitioners of at least three years' standing, in good general health, resident within five miles of the Royal Exchange, and bona fide members of a recognized medical society or association.
2. Annual subscription to be £2 2s., payable on the first day of January each year, and ceasing after fifteen years. Members may, within the first three years of membership, compound for future subscriptions by a single payment, and thus become life members.
3. All payments constituting members for life, and all legacies (unless the testators otherwise direct) to be added to the capital stock of the society, which shall never on any account be diminished.
4. The interest of the capital stock, benefactions, and donations (unless otherwise directed by the donors) and annual subscriptions, to be applicable to the general purposes of the society.
5. Widows of members to be eligible to receive an annuity payable in quarterly instalments. The value of the annuity granted shall be determined by the court of directors after due consideration of annuitant's circumstances, and, at their direction, may be limited so as not to exceed the amount paid in subscriptions by her husband.
6. The court of directors shall have power to give a donation or an annual subscription out of any surplus funds to Epsom College or any similar institution, with the view of securing votes for the election of the sons or orphans of members to the benefits of such institution, or to use the funds of the society in any other way they may see fit to secure the proper education of the orphans of members.
7. The court of directors shall have power to add to a widow's annuity at any time a limited donation, if they find on investigation that her circumstances are necessitous, and if the funds of the society permit.
8. Annuitants shall forfeit their annuities if they marry again, but the court of directors may still assist in the education of the children of the deceased member.

Glasgow Royal Hospital for Sick Children.

A start has now been made with the new buildings for this hospital on the selected site at Yorkhill, and the work will be pushed on with all possible speed. The new hospital, which has been designed by Mr. J. J. Burnett, architect, and Dr. D. J. Mackintosh, superintendent of the Glasgow Western Infirmary, will provide accommodation for 200 children, and will be up to date in every respect. No pains will be spared to ensure the highest efficiency. All the latest advantages and improvements will be included, Mr. Burnett and Dr. Mackintosh having made an extensive tour of the Continent in order to see the most recent buildings of this kind and the systems in vogue before preparing the plans. All the wards will face the south, and all will have flat roofs, which will be utilized as playgrounds for the convalescents. Queen Alexandra recently became a patroness of the hospital.

Broomhill Home, Glasgow.

The annual sale of work done by patients in the Broomhill Home for Incurables was opened on May 16th by Lady Campbell of Succoth. Sir George T. Beatson, M.D., K.C.B., who presided, referred to the interest of the late King Edward in hospitals and charitable institutions. Such institutions were the practical expressions of the sympathy felt for suffering and distress; he referred to the Lanfine Home for Consumptives—an adjunct of Broomhill—as one of the most powerful factors in the general crusade against tuberculosis.

Edinburgh Royal Infirmary Residents' Club.

The annual general meeting of members of the club will take place in the Caledonian Station Hotel Edinburgh, on June 24th, at 7 p.m., and the sixteenth annual dinner will be held at 7.30, when Dr. Byrom Bramwell, the President, will occupy the chair. Members intending to be present must send their names to the Secretary (Mr. Edwin Bramwell, M.B., 24 Walker Street, Edinburgh) on or before June 21st.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Post-Graduate Classes, Dublin.

The syllabus of annual post-graduate classes in connexion with the Royal College of Surgeons in Ireland has been issued. Two courses will be given, each of about three weeks' duration. The first will begin on June 6th and will terminate on June 28th; the second will begin on September 26th and will end on October 18th. One of the objects of these courses is to render available the whole of the clinical material in the city for the post-graduate student, and in consequence the programme has been framed so as to include lectures and demonstrations at each of the ten general hospitals, as well as at the various hospitals devoted to special cases. Instruction will also be given in operative surgery, anatomy, sanitary science, pathology, and bacteriology, the administration of anaesthetics, and in *x*-ray and light therapeutics. Arrangements have been made with certain hotels to receive members attending the classes at modified rates.

Post-Graduate Classes, Trinity College, Dublin.

The syllabus of the post-graduate classes in connexion with the School of Physic in Ireland has been issued. From the copy which lies before us we observe that, as in former years, there will this year be a summer and an autumn course. The former will begin on June 6th and the latter on September 19th. Each course will last three weeks. The inaugural lecture will be given by Mr. B. G. A. Moynihan, Surgeon to the Leeds Infirmary. By permission of Professor A. F. Dixon the lecture will be given in the large anatomical theatre. It will commence at 4.30 p.m., and will be open to all qualified men. Mr. Moynihan has selected "Dyspepsia" as the subject of his lecture, one which must appeal to all who practise medicine, whether as consultants, specialists, or general practitioners. The course, as a whole, is very much on the same lines as those which proved successful in past years. Instruction will be given in medicine, surgery, and gynaecology, in special subjects, such as skin, ear, throat, nose, eyes, and also in anatomy, physiology, and radiography. A fee of £5 5s. covers all the classes for three weeks. Arrangements have been made by which a limited number of members of the class may reside in college and dine on commons at a charge of £1 1s. per week. Further particulars may be had from the Honorary Secretary, 27, Lower Fitzwilliam Street, Dublin.

Royal Medical Benevolent Fund Society of Ireland.

A meeting of the Central Committee was held at the Royal College of Surgeons on May 11th, Dr. Ninian Falkiner in the chair. The following resolution was passed, all standing:

> That the Hon. Secretaries and Acting Secretary be requested to draft an address to King George V on his accession to the throne, and of condolence with him on the death of his father, our late beloved and honoured Sovereign, King Edward VII, who was for nine years patron of this society.

Municipal Work by Medical Men in Belfast.

Councillor Dr. Robert Thomson, Vice-Chairman of the Public Health Committee of Belfast, has been unanimously elected Chairman, in the room of Alderman Dr. King-Kerr, who recently resigned. Dr. Thomson has been a member of the Corporation only for a few years, but has shown an active interest in the work of

the Health Committee, and proved himself well abreast of the times in sanitary matters. Councillor Dr. Andrew Trimble has been appointed Chairman of the Children's Act Committee, which has just come into existence, as a logical outcome of the Children's Act of 1908. Formerly the City Council thought they had done their duty when they had provided their share of the funds for the various institutions to which the magistrates could commit juvenile offenders of both sexes. Now, under the sympathetic guidance of Councillor Trimble, they will endeavour to investigate the causes that lead to the offence, and, as far as their powers will allow, to afford such aid and to take such steps generally as will remove the original trouble. Dr. Trimble has in the past taken great interest in the municipal milk dépôt; and both he and Dr. Thomson in the Public Health Committee may be trusted to take a large and comprehensive view of the responsible duties of their offices, and to carry the profession with them in their efforts for the public welfare. The chairmanship of four municipal committees is now held by medical practitioners; in addition to the two just referred to, Councillor Dr. Henry O'Neill is the energetic Chairman of the Market Committee, and Councillor Dr. Williamson, the trusted Chairman of the Police Committee. The valuable services of Dr. Briars as Chairman of the Poor Law Board of Guardians will also be remembered in Belfast. Members of the profession evidently take their part in the business of the public boards, and their efforts are appreciated and trusted by their lay fellow workers.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

WALES.

A Water Scheme.

For some time there has been a serious danger to public health in the Monmouthshire mining valleys owing to the absence of a proper and continuous water supply in dry seasons. The reason is that the colliery workings have in the course of time absorbed practically all the available springs. The Abertillery, Abercarn, Risca, and Mynyddislwyn councils are promoting a bill with the object of supplying the western portion of Monmouthshire with water. The estimated cost of the scheme is £247,000. There is every prospect of the scheme going through; it has been approved by the ratepayers in the localities concerned, and most of the petitions deposited against the bill have been withdrawn. A splendid source has been found in the Grwyne Fawr Valley, not far from Llanthony Abbey. The experience of past years shows that in those cases in which spring water has been utilized for the purposes of water supply, the minimum flow, which fixes the quantity of water capable of being supplied, has been diminishing for years past. Even in the district of Abercarn in recent years the springs have been gradually diminishing, so that in dry times now they have not more than one-half the volume which they formerly possessed, and as time goes on no doubt all these sources of supply which are in proximity to the coal measures will considerably diminish, as an enormous and increasing quantity of water is pumped every day from the coal mines of the district, all of which finds its way from the surface and reduces the supply. Further, even in districts outside the county of Monmouth, such as that of Grwyne Fawr, which it is now proposed partially to secure for the use of the proposed Abertillery and District Water Board, it is by no means certain that the supply will remain available for any lengthy period, as already it has been suggested that it should form a portion of the future source of the water supply of the metropolis. The particular advantages of the Grwyne Fawr stream are that the water is of the purest quality, that it is not plumbo solvent, and that the area is wholly uninhabited. The source is at a sufficiently high elevation to supply every portion of the district. The population of the districts to which the water is to be supplied is likely to increase very considerably, and it is estimated that at the lowest computation the population in Abertillery will be 59,541 in 1921; in Abercarn, 30,305; in Risca, 22,886; and in Mynyddislwyn, that portion supplied by the Risca works, 8,069, making a total of 120,801. The Grwyne Fawr reservoir will have a capacity sufficient for 167 days' supply and compensation water, although from the report made by Mr. Blethyn T. Rees to Viscount Tredegar, as the result of ten years' gauging on the Grwyne Fechan Valley, the adjoining valley to the Grwyne Fawr, 100 days' storage would be ample.

LIVERPOOL.

The Medical Institution and the Death of King Edward.

In consequence of the death of King Edward VII an extraordinary general meeting of the Medical Institution was convened for 5 p.m. on Thursday, May 19th, in order to adopt a loyal address of condolence to King George V; 73 members and Associates were present and several apologies were received from those unable to attend. The President, Dr. T. R. Bradshaw, stated that it was in accordance with the precedent set on the occasion of the death of Queen Victoria of most happy memory that the meeting had been called to give corporate expression to the deep sorrow they felt at the death of King Edward. At the last meeting of the Council a small committee, consisting of the President, the Secretary, and the Ex-President, had been appointed to draw up an address, which was as follows:

To the King's Most Excellent Majesty.

The Members and Associates of the Liverpool Medical Institution desire to record their deep sorrow at the death of their beloved Sovereign, King Edward the Seventh. They desire to express their appreciation of the sympathy which throughout his memorable career he manifested with every movement for the social and physical advancement of his subjects, and more especially with the work of the medical profession, which he showed in a signal manner by graciously consenting to be enrolled among the Fellows of the Royal College of Physicians and of the Royal College of Surgeons.

They respectfully offer to Your Majesty and Your Majesty's Royal Consort, to Her Majesty the Queen Mother, and to the other Members of Your Royal House, their profound sympathy in the loss which you and they, together with the whole British Empire, have sustained, and they beg to assure You of their loyalty and attachment to Your Majesty's Throne and Person.

Dr. A. T. H. Waters, the senior trustee, the senior past-president, and by many years the senior member of the institution, proposed the adoption of the address in an eloquent speech, in the course of which he said that in the presence of a great national calamity, under the shadow of a great national sorrow, when from all parts of the British Empire, from all the nations of Europe, with the reigning families of many of which our Royal Family was connected by ties of blood, and not only so, but from almost every part of the civilized globe, addresses were pouring in testifying to the sorrow caused by the death of our late King, to the appreciation and affection in which he was held, and offering condolences to his bereaved family, it was well that the members of the Medical Institution, representative of the medical profession in Liverpool, should assemble to give expression to their grief on the solemn occasion, to offer their condolences to the bereaved Queen Mother and the other members of the Royal House, and to convey the expression of their loyalty and devotion to His Majesty the King. The speaker said that he had lived in the reigns of five sovereigns, but he had never known an event which had so profoundly stirred the nation as had the death of King Edward VII. The medical profession had not only lost a King, but one of their own members—a man who had always been loyal to the profession and had shown great interest in it. It had been his good fortune to be present at the International Congress of Medicine in London in 1881, the opening meeting of which had been attended by the late King, then Prince

of Wales. The Prince was present also at a dinner given by Sir William Gull, at which the German Crown Prince was a guest. The late King showed his appreciation of another profession closely allied to that of medicine by conferring the Order of Merit on Florence Nightingale. The King was dead, but another King reigned in his stead, and to him and his gracious consort they wished a long, a happy, and a prosperous reign.

Mr. Chauncey Puzey seconded the adoption of the address, which was supported by Mr. Edgar Browne, and carried unanimously in silence.

ASSOCIATION OF PHYSICIANS.

The annual meeting of the Association of Physicians of Great Britain and Ireland will be held in Liverpool on Thursday and Friday, June 2nd and 3rd. The Council of the Medical Institution has granted the use of the building for the daily sessions. Clinical demonstrations will be held in the Royal Infirmary on one day, and the annual dinner will take place at the Adelphi Hotel on June 2nd. A large attendance is expected, and there is a full programme of business.

MANCHESTER AND DISTRICT.

OPTICIANS AND THE MEDICAL PROFESSION.

AN adjourned conference[1] of representatives from optical societies in favour of the establishment of a federation of such organizations was held at the Albion Hotel, Manchester, on May 19th. Mr. J. C. Kidd of Manchester presided, and the societies represented included the Scottish Optical Association, Glasgow Optical Society, Northern Counties Optical Society, West Riding Optical Society, and Manchester and North of England Optical Society. A communication was received from the Midland Optical Society regretting that its representatives could not attend. Since the last conference the eight societies taking part had had under consideration the draft memorandum of federation, and several of them submitted alterations, additions, and emendations to the chief clauses. The conference decided that the name of the new organization should be "The National Federation of Ophthalmic Opticians"; that for the present the head quarters should be in Manchester; that a conference should be held annually at a place to be fixed twelve months ahead; that there should be a council of twelve, four to retire annually; that business meetings should be held quarterly; that the federated societies should pay a fee of 15s. per thirty members, and over that number *pro rata*, individual members to contribute 1s. each year to the funds of the federation, unattached opticians to be eligible on payment of 2s. 6d. annually. It was further decided that members should not be allowed to advertise their connexion with the federation for business purposes. It was decided to include the following subjects in the programme of the federation: To secure or assist to secure a legal status for qualified opticians; the unification of the existing examination schemes—that of the Worshipful Company of Spectacle Makers and the British Optical Association; the establishment of optical classes in all technical institutions in the country according to the most advanced syllabuses for optical examinations; the creation of a defence fund; the abolition of favouritism in dealing with prescriptions at publicly-supported ophthalmic institutions; the position of opticians with school boards in the matter of systematic testing, and especially in regard to unfair statements on advice cards dealing with children's sight; the establishment of a uniform minimum price list; advertising ethics, wholesale retailing, etc. Mr. E. Beaumont, Vice-President of the West Riding Optical Society, who moved the adoption of the clause as to the unification of the examining schemes of the Spectacle Makers' Company and British Optical Association, said that the great stumbling-block to progress had been the existence of this dual examination. If the newly-formed federation was to get the sympathy and support of leading ophthalmic opticians it must take up this matter. He believed also that the Worshipful Company of Spectacle Makers would be prepared to hand over their examination scheme to a properly constituted and responsible body. At any rate since the last conference in Manchester Colonel Sewell had said the company had nothing to lose financially or otherwise by handing over the conduct of its diploma scheme to any properly accredited and responsible organization.

Mr. John A. Adams, President of the Scottish Optical Association, in seconding the proposition, said that he had received letters from opticians not only in Scotland but in England and Wales, which showed how widespread and deep-rooted was the discontent and dissatisfaction at the present state of affairs, and he felt quite sure that the clause for a unification of the existing examination schemes would receive the hearty support of the entire trade. Personally he could testify to the great need there was for such work as the newly formed federation proposed to take up.

The conference elected the following officers to carry on the preliminary work of the federation: President, Mr. J. C. Kidd; Vice-President, Mr. E. Beaumont; Honorary Secretary and Treasurer, Mr. Alf. Hershberg, of Manchester; the provisional Council being the delegates from the federated societies.

[1] BRITISH MEDICAL JOURNAL, April 30th, 1910, p. 1080.

PORTSMOUTH.

AT a meeting of the Committee of the Royal Portsmouth Hospital held on May 19th, the following resolution of sympathy to the Royal Family was passed:

> The Committee of the Royal Portsmouth Hospital feel the most unfeigned grief at the loss which the whole Empire has suffered in the death of His late Majesty, our beloved King Edward. His Majesty was graciously pleased to be patron of the Hospital, and was ever foremost in inspiring and guiding the charity of his people. The Committee desire to express their deep sympathy with Their Majesties the King and Queen, and all the members of the Royal Family in their own personal loss. The Committee welcome His Majesty King George V with the utmost loyalty, and with earnest prayers that the blessing of Almighty God may rest upon him and our Gracious Queen Mary, and that he may long reign over a devoted people.

Sydney.

[*FROM OUR SPECIAL CORRESPONDENT.*]

THE MEDICAL CURRICULUM AT THE SYDNEY UNIVERSITY.

IN his presidential address at the annual meeting of the Sydney University Medical Society Dr. G. M. Barron spoke of the need for some alteration in the Sydney University medical curriculum. He referred to the fact that other universities had been making changes in the direction of shortening the preliminary and intermediate periods and lengthening the period for clinical study. He suggested the desirability of a compulsory examination in experimental physics and chemistry at the matriculation examination, which would enable a student to have some knowledge of the principles of both sciences at the commencement of his university career. Modern ideals demanded that boys should be trained to observe and reason on the operations of the natural forces in the world around them, so that most of those now entering the university had an opportunity of getting a good grounding in these sciences. He then referred to the general opinion prevailing at other universities—that the prolongation of the period devoted to clinical study could only be obtained (without unduly lengthening the curriculum) by a radical change in the method of teaching the preliminary sciences. The University of London had decided that the teaching of physics, biology, chemistry, anatomy, and physiology must be conducted with special regard to the bearing of these subjects upon the special requirements of

the medical student, and Professor Starling had said that from the very beginning of his medical curriculum every scientific subject which a student studied should be considered only in its bearings on his future work as a medical man. Dr. Barron considered that the systematic lecture held too high a place in the curriculum; that while it had its uses in the way of providing a summary of work done or in shaping a course to be followed, in these days of excellent books a systematic course of 100 to 150 lectures on any subject seemed hardly necessary. Above everything, clinical work in the ward and in the hospital laboratories was of paramount importance. Professor Wilson, F.R.S., Professor of Anatomy in the University of Sydney, in moving a vote of thanks for the address, entirely disagreed with the view that from the earliest days students should be constantly led to approach every subject from the point of view of its future utility in practice. The object of the earlier training was to put students in the position of possible clinical observers. The material on which they would feed during the earlier years would have to be used again, but they should observe towards it a disinterested attitude. Knowledge of function should be acquired without any ulterior object, even that for which they were no doubt acquiring the knowledge. It had been said that the kind of young man commercial men wanted was not the one who had studied banking and so on, but the one who had a good sound intelligence. Preliminary training should aim at producing men who would be in a position to turn a sound well-trained mind and judgement to the subjects presented. That did not imply that there should be no science in the schools. It was a paltry school training which neglected the training of the observation, and it was not the acquiring of the facts of chemistry and so on which was important. If further room had to be made for clinical study it must be at the far end of the course. With thirty-three residents' posts waiting for their graduates to give them opportunity for clinical study there was not much to complain about.

COMPULSORY NOTIFICATION OF PULMONARY CONSUMPTION.

Compulsory notification of pulmonary consumption in the City of Sydney was introduced under by-laws of the City Corporation Act at the end of 1904, and in 1905 there were 196 notifications, in 1906 168, in 1907 154, and in 1908 187. When a case is reported in the city, the house is visited and the conditions under which the consumptive patient is living are noted. He is given advice as to what to do—how to treat his sputum, and generally how to avoid the transference of infection to other persons. If the house is dirty, it is cleansed and disinfected. Subsequent visits are paid as often as is considered desirable. When a patient dies or leaves a house, the premises are immediately disinfected. Dr. W. G. Armstrong, the city health officer, reports that the compulsory notification has worked well throughout all the period it has been in force, and that no friction has arisen between medical men and their patients and the department. The Government is now considering the question of making consumption a notifiable disease throughout the State. It is not yet decided whether the powers of local governing bodies should be extended to enable them to deal with consumptives or whether direct legislation dealing with the State as a whole should be passed. Without fresh legislation it is not thought practicable to extend to the whole of the State the law which has hitherto worked so beneficially in the City of Sydney.

OUTBREAK OF SMALL-POX.

On the arrival of the Orient R.M.S. *Otway* at Fremantle last month a suspicious case of illness in a boy in the third class proved to be small-pox. Although the patient had been isolated on the discovery of the illness a few days after leaving Colombo, the infection had already spread to some of the other passengers, and several cases have occurred among the passengers quarantined at Fremantle, Melbourne, and Sydney. The infection has apparently been rather virulent, as some of the cases have been of the haemorrhagic type, and death has resulted in a few hours. On the arrival of the steamer at Sydney she was at once placed in strict quarantine, and over 600 persons were detained at the quarantine station at the North Head. A few days ago one of the seamen, who had been released from quarantine after the ship had been thoroughly disinfected, presented himself at the Sydney Hospital, and he was at once detained as a suspicious case and removed to the quarantine station. The chief quarantine officer, Dr. Ashburton Thompson, states that the suspected case was certainly one of small-pox, but in an exceedingly mild and even abortive form. Immediately upon the detection of the case every precaution was taken, as though it were the disease in a serious form. All the doctors, attendants, and all who came in contact with the patient have had to submit to vaccination. So far no further cases have been recorded. It is now stated that when the *Otway* reached Fremantle on March 22nd, flying the yellow flag, the port medical officer, Dr. Williams, was informed that a case of tropical fever had developed during the voyage from Colombo, but an examination showed the patient to be suffering from small-pox. The authorities, it is said, have decided to institute proceedings against those of the *Otway's* officers who were responsible for the alleged misrepresentation made to Dr. Williams. Summonses will be served on the defendants, and the case is to be heard when the *Otway* reaches Fremantle on April 26th.

Correspondence.

GASTROPTOSIS.

SIR,—In a letter which appeared in the JOURNAL of May 14th, under the title given above, Dr. Scanes-Spicer discusses certain problems relating to visceroptosis, and to the mechanism of respiration. He has been good enough to cite certain inferences drawn by me some seven years ago relating to the cause of visceroptosis. Further observations and the progress of our knowledge has led me to materially modify the statements quoted by Dr. Scanes-Spicer—modifications which I embodied in the article on visceroptosis contributed to the last edition of Allbutt and Rolleston's *System of Medicine*. In true visceroptosis the diaphragm occupies the position of extreme inspiration; its muscular fibres are shortened and contracted, while the muscular fibres of the abdominal wall are elongated and relaxed. In marked cases the diaphragm has reached the limit of its inspiratory descent. There can be no doubt I was in error in inferring that the low position of the abdominal viscera was due to a vitiated action of the respiratory muscles. I therefore agree with Dr. Scanes-Spicer when he states that the condition of visceroptosis is "primarily postural," and not "respiratory." The prolapsed condition of the viscera is due not to a disturbance of the respiratory action of the muscles of the body wall, but to the vitiation of an equally important function—namely, the maintenance and regulation of the intra-abdominal pressure. This, which may be termed the "visceral function" of the muscular parietes, not only plays an important part in regulating the circulatory mechanism, as Dr. Leonard Hill has demonstrated, but serves, especially in orthograde animals like man, to maintain the viscera in position.

By applying the term "postural" to the condition of visceroptosis we are assisted only a little way to a full understanding of its nature and cause. We require a much fuller knowledge of the "visceral function" of the parietal musculature—especially of that complex nerve mechanism which co-ordinates the degree of tone and contraction of the abdominal musculature in relationship to the needs of the abdominal viscera. That the evolution of the orthograde posture was attended by a further elaboration in the reflex mechanism which exists between the viscera and muscles of the body wall in mammals is certain, but as to the anatomical substratum of that mechanism we know almost nothing at present. It is highly probable that the Paccinian corpuscles, which are found so richly distributed in the root of the mesentery and in the subperitoneal tissue in other parts and by the

sides of veins and venous plexuses, are end organs of this mechanism. The cause and probably the cure of visceroptosis will become apparent when this mechanism is better known.

In the investigation of all cases of visceroptosis, and especially of gastroptosis, a determination of the level of the diaphragm is absolutely essential to separate the condition of "true" visceroptosis from a condition of "false" visceroptosis which is due to artificial or pathological deformation of the liver and stomach with dislocation of the kidney. For the estimation of the level of the diaphragm I proposed a line drawn transversely on the body at the notch at the lower end of the sternum. My friend, Professor Wenckebach of Groningen, informs me that he finds the spinal parts of the tenth pair of ribs afford a better standard for estimating the degree of diaphragmatic dislocation than the line proposed by me.—I am, etc.,

Royal College of Surgeons of England, May 20th. ARTHUR KEITH.

DOES GASTROSTAXIS EXIST AS AN INDEPENDENT DISEASE?

SIR,—Dr. C. Bolton's admirable paper in your issue of May 21st should provoke an interesting discussion. He will, however, I hope, forgive me for pointing out that the title he has chosen is a little unfortunate, in that his use of the word "gastrostaxis" is not quite accurate, and rather tends to create unnecessary confusion.

Gastrostaxis, or oozing of blood from gastric mucosa, is merely a symptom that may occur in many diseases, just as epistaxis, or uterostaxis, or enterostaxis may occur in many diseases. To ask, therefore, if "gastrostaxis exists as an independent disease" is almost equivalent to asking if epistaxis exists as an independent disease. Diseases and their symptoms are surely not interchangeable terms. That the confusion created by not distinguishing in this case cause from effect is a real one is shown by the opening paragraphs of Dr. Bolton's paper. He there differentiates, in nomenclature, the oozing of blood from gastric mucosa that may occur in absence of demonstrable ulcer and of any other disease in which bleeding is likely to occur from the oozing that may occur in many conditions of toxaemia. To oozing in the first group he gives the name of "gastrostaxis"; to oozing in the second group he gives the name merely of "haemorrhage." Now, the object of his paper appears to be to show reason for believing that where oozing occurs in the absence of demonstrable ulcer, and in the absence of recognized toxaemic disease, the absence of ulcer is only apparent. Hence, if the term "gastrostaxis" be applied to this group only, the inference is that ulceration is not responsible for the oozing that occurs in the toxaemic group. This suggestion can scarcely be intentional, and, even if it were, could not be maintained until it had been shown that minute ulceration may not occur in cases of the toxaemic group in which the mucous membrane is ostensibly intact.

It is now many years since it was pointed out by Dr. Donald Hood that oozing of blood may take place from gastric mucosa without there being any demonstrable ulcer present to account for its production. The point was taken up also by Dieulafoy in 1898 and later by Dr. Hale White. The word "gastrostaxis" was then coined by Sir Edwin Cooper Perry (on the analogy of "epistaxis"), and if properly used it well describes the phenomenon. Its use was, however, immediately perverted, as I pointed out in December, 1907. The reason for perversion was the undoubted fact that oozing of blood from gastric mucosa may occur, mainly in young women, and may be accompanied or preceded by pain, in the absence of ulcer demonstrable by ordinary methods. This, of course, apart from its occurrence in the demonstrably toxic conditions in which gastrostaxis, or other forms of viscerostaxis, may occur in its purest forms. In order, therefore, to distinguish the apparently peculiar syndrome of oozing and pain without discoverable ulcer from the familiar syndrome so often accompanied by demonstrable ulcer the word "gastrostaxis" was swept from its proper place in medical nomenclature and was quite inadmissibly applied in the sense in which Dr. Bolton uses it.

It is to be hoped that this criticism, which is offered in no spirit of pedantry, will help to check a growing abuse that tends to add needless difficulty to a subject already sufficiently intricate.

To the many excellent points made by Dr. Bolton against acceptance of the view that gastrostaxis, whether accompanied by pain or not, may be symptomatic of a disease not associated with ulcerative lesion, I should like to add one or two remarks.

It is generally assumed that if, on macroscopic inspection, above all in the deadhouse, no ulcer or scar of ulcer be found, there is not, and has not been, an ulcer. Dr. Bolton has sufficiently dealt with the view that macroscopic evidence of the absence of ulcer is, unless the examination be conducted with detailed care, not necessarily of any value in proving absence. Certainly the position of those who maintain that failure to find ulcer is no proof of its absence, since a minute ulcer is easily overlooked, is at present unassailable by those who suggest that gastrostaxis without ulcer may be symptomatic of a distinct clinical entity; but of equal importance with ability or failure to demonstrate the existence of open ulcer is the question of scars. Some gastric and duodenal scars there are which from their nature cannot, on inspection, escape notice. Others there are that require most careful search; but—and here is the crux of the matter as regards acute gastrostaxis—are we sure that ulcers need leave any scar at all—any scar, that is, that the eye unaided by the microscope can detect? There is much suggestive, if indirect, evidence to the contrary. The one characteristic of experimentally produced gastric ulcers in animals is their fugitive nature, also always acute. The same is true of the natural disease in man. A patient with an acute ulcer—often, it may be, missed—either dies, or merges into a chronic stage, or gets rapidly well. Acute ulcer in man, apart from the obvious toxaemias, is a commoner event than is often supposed. Why should acute ulcers of the stomach, single or multiple, which rapidly get well, necessarily leave any scar at all, recognizable by macroscopic methods? If this reasoning be sound, and if it should eventually prove to be the case that wherever there is profuse gastrostaxis there is also a condition of ulceration, minute or gross, we should not always expect to find scars. The position, therefore, of those who think that gastrostaxis may occur without ulceration cannot be strengthened by an appeal to the apparent absence of scar any more than to the apparent absence of ulcer.

Once more, it is assumed by many writers that a chronic gastric or duodenal ulcer is essentially different, as regards its genesis, to an acute ulcer. This view I believe to be wholly erroneous. The fact that chronic ulcers are more often found on inspection to be single than multiple proves nothing. The distinguishing anatomical differences in morphology and site between an acute ulcer and a chronic also prove nothing as regards different genesis. Both in animals and in man multiplicity of acute ulcers, and often of chronic, is a well marked feature, particularly as regards acute ulcers in demonstrable toxaemias. If it be true that a chronic ulcer is merely an unhealed relic of a crop of acute ulcers that have healed, the conception of a clinical entity characterized by gastrostaxis and pain without ulcer becomes still more difficult to sustain. For if all single chronic ulcers be only the remains of an acute multiple outbreak the connecting link between acute gastrostaxis and multiple points of ulceration is greatly strengthened.

At the best, then, it is difficult to see how the view that gastrostaxis is independent of precedent ulceration can at present be more than a matter of speculation. From the argument that the conception is based on incomplete observation there seems to be no escape. Of far greater interest and practical importance, however, than the relation of ulceration to these rare cases of oozing of blood from no readily demonstrable source is the essential cause of ulceration itself. Reflection shows that both haemorrhage and ulceration must almost certainly be only symptoms of a disease of which we know nothing. Till this problem of the initial cause of ulcer be solved energy is wasted on academic issues, particularly as the need for differential treatment of the two conditions in practice very seldom arises.—I am, etc.,

E. C. HORT, F.R.C.P.Edin.,
Assistant Physician to the Italian Hospital.

May 20th.

CANCER OF THE RECTUM.

SIR,—I have read with great interest the contributions that have lately appeared in the JOURNAL on rectal cancer. The paper of Mr. Sampson Handley is one of great importance, for, if the facts as to the spread and infection by the lymphatics which he describes and illustrates are generally true, it would at once make any idea of curing rectal cancer by operation hopeless. I am encouraged, however, by calling to mind the words of the French savant to his pupils when he warned them "that in scientific research, unless they were very careful indeed, they would find what they were looking for."

Mr. Handley in his paper[1] draws very dogmatic conclusions from the single case of Mrs. G. Here the disease was in a common situation—"a finger-length from the anus." The disease, he says, was in "an early stage," only involving a portion of the circumference of the bowel. This is just such a case as we are called to operate upon, and in which, by the sacral route, we feel there is a reasonable chance of permanent success, while by resecting the gut a liberal inch above and below the disease the lower part, including the levatores ani and sphincter, is left intact. In these cases a subsequent operation can be done by joining the two ends and the control made nearly as good as before the operation. I have had some such cases in my practice—one occurs to me at the moment. The patient was brought to me by Dr. Rushworth of Hampstead in 1898. About 4 in. of the rectum were resected by removing part of the sacrum. The ends could not be drawn together, but four years later, the upper segment having by degrees become prolapsed, the ends were united. The result was excellent, and Dr. Rushworth tells me the patient, after eleven years, is still well with perfect control. Now, how could such a successful case occur in the future if Mr. Handley's deductions are correct? He starts his operation with the conviction that, though in an early stage and nothing can be detected by the finger, above the disease the lymphatics are infected. He proceeds to do a most formidable operation by removing a long segment of the bowel "at least 6 in." above the growth, while at the same time he destroys the whole of the bowel below, just the part that would be invaluable when restoring continuity at a future date. Having completed his work, according to his own statement, he has done a perfectly useless operation; for what does he find with the aid of mucicarmine? "Infiltration was found at least 6 in. above the growth and how much further I cannot say," leaving the impression that it certainly extended far beyond his point of section. Indeed, Mr. Handley's observations amount to this, that no matter how clearly defined the border of the growth may be to the finger, however movable the part may be on the surrounding tissues, the "cancer cells" have been carried far and wide along the apparently sound bowel to quite an unknown distance. This renders any local removal hopeless, and since Mr. Handley, after removing 1 ft. of the bowel, found no termination of the disease, even the widest operation might be equally futile.

As Mr. Handley's observations under the microscope are so opposed to my clinical experience, it will be well to point out some of the chief clinical facts that seem to vitiate his theory of wide lymphatic infection as the usual accompaniment in intestinal cancer at an early stage. If "cancer cells" pass and remain arrested along the submucous lymphatic paths, there would be little isles of cancer in the bowel walls, inches if not feet away from the original growth. These, from the very nature of cancer, are bound to develop into nodules and tumours of such a size as to be soon obvious to sight and touch. Yet this is very rarely the case; far more commonly the disease is confined to a single mass as far as the bowel is concerned. It is exceptional to find cancer in any other part of the intestine than at the original site. At this spot will often be found a large mass of disease, several inches in diameter, involving the walls of the bowel and incorporating neighbouring structures into the mass. Nevertheless, the bowel can be seen entering and emerging from this mass in an undiseased condition. If it is slit open the disease will be found spreading along the bowel *pari passu* with the rest of the growth by a clearly marked high border, and this may be taken as the way the cancer advances along the bowel in nine cases out of ten. There is another, though very exceptional, way in which the disease extends, and here Mr. Handley may be right in attributing it to lymphatic infection.

To these cases there is the formation of nodules in advance of the main growth, which gradually coalesce and join the main tumour. Such cases do not amount to more than 5 or 6 per cent., and I have always regarded them as hopeless and unsuitable for any form of operation. Secondary infection of the lumbar and mediastinal glands and of the liver is common enough in a late stage of rectal cancer. The liver is often studded with nodules of secondary growth from the size of a pin's head to an orange; notwithstanding this, the *post-mortem* examination seldom shows evidence of the infection having spread along the bowel to any great distance from the primary growth. Amongst the most favourable cases of freedom from recurrence after removal are those in which a ring of cancer is formed round the bowel, perhaps not more than an inch or two in width. If this be resected with a couple of inches of healthy margin the result is often excellent, and I have followed such cases for years without any recurrence. Would this have been possible if the "cancer cells" had spread "at least 6 in. beyond the disease" at the time of operation?

Then, again, the way in which cancer returns after excision of the rectum is inconsistent with the theory that the bowel is infected 6 in. above the part removed. If this were so, would it not show itself by the appearance of nodules all up the bowel? for if the cancer cells were already there, they would grow and soon show themselves in the infected area. This is not the way the disease recurs. In the first place the recurrence is generally not in the mucous membrane at all, but in the tissue surrounding the part from which the bowel had been removed, especially in the tissues about the sacrum and the base of the bladder. When it does recur in the mucous membrane it mostly does so in the immediate neighbourhood of the cut margin, and not higher up the bowel. I have on several occasions removed small recurrences at the margin with good results, which would not have been possible if the bowel had been infected with cancer cells far higher up. Lastly, the fact that the removal of patches of disease with a margin of not more than 1 in. or so of healthy tissue around is not infrequently followed by a permanent cure, is conclusive evidence that the lymphatics could not have been infected.

Now, seeing that it is contrary to clinical experience to find cancer recurring in long lengths of the bowel above and below the part removed, what evidence does Mr. Handley adduce to support his view that even at an early stage the lymphatics are infected far and wide up and down the intestines? To quote his own words, "mucicarmine staining red affords conclusive proof of cancerous invasion in tissues in which epithelium is normally absent." I have carefully studied in thousands of microscopic sections the appearance of both the growth and the rectal walls in its neighbourhood in cases of rectal cancer. When the glandular structure of Lieberkuhn's follicles with clearly-defined cylindrical cells can be traced extending downwards and extending into the muscular coats, I think we can say with fair certainty that the case is malignant, but if, on the other hand, the follicles instead of growing downwards grow so as to form more or less of a pedunculated tumour standing out in the lumen of the bowel a villous tumour is produced, which, if removed, no matter what its size, together with its pedicle is seldom reproduced, and therefore clinically is not malignant. The cells in the follicles of the villous tumour, both in appearance and in the way they stain, cannot be differentiated from similar cells in undoubted malignant disease. Here we have the same growth which, if extending free into the cavity of the bowel, is innocent, yet when growing downwards into the muscular coats becomes cancerous. The microscope will often decide whether or not the growth has invaded the muscular coats of the bowel, and in this way forms confirmatory evidence as to the nature of the disease.

Without actually seeing the specimen from which Mr. Handley's coloured illustration was taken (BRITISH MEDICAL JOURNAL, April 16th) criticism must be founded on his printed reproduction. No illustration of the growth itself is given; only a section of the bowel 6 in. above it.

[1] BRITISH MEDICAL JOURNAL, April 16th.

Little bodies, stained red, appear by their regularity and circular or oval shape to be channels cut in sections containing mucoid cells of some kind. Some of these might do for the extended base of a Lieberkuhn's follicle set a little deeper than its neighbours, or more probably, as the author states, they are vessels of some sort cut in section. What strikes one most is their regularity and their general uniformity in size, suggesting much more a natural condition than points of malignant disease. If these were really centres of malignant disease, did they all appear there at the same date? If not, one would have expected some to be tiny points and others considerable masses of growth.

I know only too well the extreme difficulty of readily interpreting the nature of cells in the intestinal walls, especially in the lymphatic passages. They vary according to whether the animal has been fed or starved, and probably from a variety of other causes. To clearly prove that such appearances are only found in the intestines of the cancerous would require a large number of control sections in healthy intestines under varying conditions. Even supposing that the appearance indicated was only found in patients who had cancer, it would not prove that they were cancer cells in the sense that they would develop into malignant growths. Very similar cells are found in intracystic papillomatous tumours of the ovary, where they display no malignancy until they have burst through the containing walls of the cyst, when once having done so they may quickly infect all the neighbouring tissues.

I venture upon this somewhat lengthy criticism of Mr. Handley's paper because statements made by so careful an observer are sure to have their influence in the practice of surgery, and might prove disastrous in the treatment of rectal cancer.

At present excision of portions of the rectum in properly selected cases has proved of great benefit, and led to a fair amount of permanent success. I define properly selected cases to be those in which the extent of the growth is moderate, and where the limits can be clearly ascertained by the finger, or, if high up, by intra-abdominal exploration; above all, those in which the bowel remains movable upon the surrounding tissue. In such cases, though, of course, no surgeon can promise a permanent cure in any particular instance, yet he may hope for it, knowing that it is possible in a fair number of instances. The risk to life when the bowel is still fairly movable and no extreme length involved is small, and is well worth running; but if the doctrine be accepted that with a comparatively small patch of cancer in an early stage the lymphatics are so involved that the anus, and perhaps a foot or more of the bowel, must be removed, then the operation becomes severe and risky, with but a small chance of getting beyond the infected lymphatics. Under these circumstances no practitioner would advise an operation for his patient, and the result would be that many patients would lose the advantages of an operation which, if it had been performed at an early stage, might have ended in a permanent cure.

To bring conviction that lymphatic infection, as described by Mr. Handley, is generally, or even commonly, present in rectal cancer requires far stronger proof than he has at present adduced, and I trust surgeons will hesitate before adopting this view. Every surgeon dealing with rectal cancer must be prepared occasionally to do severe and hazardous operations either by the sacral or intra-abdominal route, but I hope it will never become the practice to perform these dangerous operations when the patch of disease is small and limited. To do so would be to sacrifice sound clinical surgery to a doubtful pathological theory.—I am, etc.,

London, W., May 14th. HARRISON CRIPPS.

THE SURGICAL TREATMENT OF GLYCOSURIA.

SIR,—Dr. Chalmers Watson in his letter of May 14th rather misses the main point which I wished to emphasize in my paper—namely, that by the early recognition and treatment of functional disorders of the pancreas, whether associated with glycosuria or not, the onset of true diabetes may be averted in many cases.

With regard to the diagnostic value of the pancreatic reaction in cases of glycosuria I can only speak from my own clinical observations, which have shown that if the tests are personally carried out by a reliable pathologist who has had special experience in these analytical methods and their interpretation, they afford considerable assistance in determining the cases that are likely to benefit by operation.—I am, etc.,

London, W., May 19th. A. W. MAYO ROBSON.

SIR,—I cannot agree with the statement made by Dr. Chalmers Watson in his letter of May 14th that "the pancreatic reaction has no special value in cases of glycosuria," for I find that, if the test is carefully and correctly carried out,[1] a positive reaction is only obtained in cases where it is probable that the glycosuria is associated with active degenerative changes of an inflammatory character in the pancreas.

In my last series of 100 cases of glycosuria a negative reaction was obtained in 31 and a positive result in 69. My experiments upon animals[2] have also shown that a positive reaction is not necessarily given even when the urine contains a large amount of sugar.

I readily admit that the test is a laborious one, and I find that careful attention to details throughout is essential for success. It is, therefore, not an ideal method for routine work. I have for some time been experimenting with a view to improving it, and I am now, as a result, working with an entirely new process, in which the slow and clumsy fermentation stage is eliminated. The results so far have agreed very closely with those obtained by the fermentation method, which has been carried out at the same time, but the new test can be completed within the space of a few hours. I have had several opportunities of controlling the results at operation and *post-mortem* examinations, but until I accumulate a larger body of evidence I am content to "wait and see." My object in mentioning this method now is to show that in my experience the results of the fermentation test are confirmed by another and altogether different process, and that I find it to be of distinct value in the diagnosis and prognosis of cases of glycosuria.—I am, etc.,

London, W., May 19th. P. J. CAMMIDGE.

LEAD POISONING, GOUT, AND GRANULAR KIDNEY.

SIR,—The article on lead poisoning by Dr. Prendergast in your issue of May 14th gives me the opportunity of shortly stating my experience of the connexion between plumbism and gout.

I have long been familiar with the views of Sir Thomas Oliver, that the relationship between lead and gout is rare, and this is again expressed by him in the present article, in which he says: "We do not see gout associated with lead here [Newcastle-on-Tyne], except on the rarest occasions." From a wide experience of lead poisoning in the Manchester district during the last thirty years I have always been surprised at this infrequency of gout in plumbism at Newcastle-on-Tyne, and now Dr. Prendergast's experience in the Potteries is similar, and he says: "I am not a believer in Garrod's theory [that lead poisoning is productive of gout]. Out of my 405 cases I found only 4 afflicted with gout"; and further, that neither he nor Sir Thomas Oliver have even seen gout in a female lead worker.

I cannot say how many cases of gout I have seen in lead poisoning, but putting the problem in another form, I can safely say that of cases of gout occurring in the working classes in the Manchester district, *at least* 25 per cent. have a history of lead poisoning, or, in other words, that lead is an antecedent in these cases. It may not be the only antecedent, but with a percentage so high as this it surely ought to be thoroughly understood and accepted generally that there is a strong connexion between plumbism and gout. This is to me a fact of the greatest importance, not only for diagnosis, for treatment, both preventive and curative, but also in medico-legal work, especially in compensation cases.

I have certainly rarely seen lead gout in women (but gout with any causation is not so common in women as in men), yet recently I saw a very typical case of gout of the left hand in a woman who worked with pottery glaze, and who showed other typical signs of lead poisoning.

[1] *Surgery, Gynaecology, and Obstetrics*, January, 1908.
[2] *Proc. Roy. Soc.*, B. 81, 1909; *Proc. Roy. Soc. Med.*, February, 1910.

While writing on this subject, I should like to mention another point about the after-results of lead poisoning. We all know its effect in producing the granular kidney with its resulting circulatory effects. During the last few years I have frequently obtained in many cases of the late stages of granular kidney with the typical dilated and hypertrophied heart, the cardiac asthma, the swollen feet, and the large amount of albuminuria, a history of lead poisoning which had occurred very many years ago, and which the patient had either forgotten or knew little about until closely questioned. For instance, two chemists with granular kidneys who had, some twenty or twenty-five years before I saw them, suffered from lead poisoning in the course of their work, in one instance for some weeks only, and in the other for some months. In several other cases I have elicited from builders or contractors who had by degrees risen from humble positions that when labouring men many years before they had worked amongst lead, and had suffered from acute symptoms of lead poisoning; all symptoms of plumbism had disappeared except the action on the kidneys, which had gone on in spite of freedom from lead contamination, and had gradually produced the typical and fatal circulatory and uraemic symptoms.—I am, etc.,

Manchester, May 23rd. ERNEST S. REYNOLDS.

SICKNESS AND INVALIDITY INSURANCE.

SIR,—I welcome Dr. Taylor's letter (BRITISH MEDICAL JOURNAL, May 21st, p. 1265) as a most valuable contribution to the discussion of this subject, and although I cannot quite agree with his criticism of my proposals (as stated in the JOURNAL of May 7th), I believe we are narrowing down the issue very considerably and approaching a *modus vivendi*. Dr. Taylor has not quite grasped my suggestion with regard to the "deposit system." He says:

> The deposit system of the National Deposit Friendly Society is satisfactory only for short illnesses, and would utterly fail to meet insurance requirements if a long illness or invalidity occurred, seeing that when a member's private deposit was exhausted he would lose all claim for further medical attendance. What would then happen?

I did not propose to copy the National Deposit Friendly Society's scheme *in toto*, merely to utilize the idea of a deposit as giving the insured an interest in keeping well, in expediting his recovery when ill, and in keeping down unnecessary visits. Under any scheme of national sickness and invalidity insurance some safeguards in these directions are, to my mind, necessary, and I have so far met with no better or more practicable scheme.

To state again my proposal: It is that from the contributions made by the insurer (or worker) half should go to the general insurance fund and half be ear-marked as a private deposit account, which, in event of the insurer not requiring to draw for sickness, will steadily accumulate. When it reaches a certain amount the depositor may draw upon the excess for certain capital purposes, or it may go as an extra old age pension. When the insurer is ill half, or some other fair proportion, of the charges are paid out of the deposit account, and the remainder from the general fund. When the fund is exhausted the deposit fund becomes a deficit, and a certain proportion is entered against the insurer. This deficit must be repaid before any fresh accumulation can occur. If thought necessary, a limit might be placed to the amount of the deficit allowed. Beyond this the patient would have to be handed over to the Poor Law medical service proper. There are certainly limits to be recognized to the elasticity of any insurance scheme, and although as a profession we may have every wish to help the State towards providing a workable scheme, it is unfair to ask us to take upon ourselves the whole burden of the medical treatment of chronic destitute patients at a purely nominal yearly fee. Special provision could, of course, be made for many of these cases—for example, phthisis, cancer, chronic Bright's and chronic heart disease, and so on—in special institutions, homes, sanatoriums, colonies, etc., but at present they belong largely to "the great unpaid," and if we are not careful they are likely to remain so.

Turning to Dr. Taylor's scheme of a capitation fee of 10s. a year for each insured, whether well or ill, pooling the funds, and paying the medical men according to work done, the only practical difference between this scheme and mine is that the insurer "names" his medical man at the beginning of each year. I foresee great objection to this, and it certainly lends itself to touting and corruption, all the worse because it would be underhand. Personally, I should not like to feel that my 10s. a year capitation fees for non-patients (that is, only *possible* patients) were dependent upon the caprice of these individuals, with whom it would be constantly necessary to curry favour. I see no reason for this. The capitation fee could be paid to the central fund just the same, and the fees paid out according to work done, and the choice of medical attendant given to each patient for each illness. Whether a capitation fee of 10s. a year would yield sufficient, and whether even that would be paid, is, of course, open to question.

We are, I believe, agreed about most other points. I would certainly rather not have a "reducing fee" for extra visits, but if it is insisted upon by the powers that be, I for one should be prepared to meet them, although it would certainly be "doing something for nothing."

I am quite one with Dr. Milligan in being absolutely opposed to a contract practice scheme, even such as has been outlined by the Association, and in preferring an out-and-out State medical service with salaried officers (providing the salaries shall be adequate). A State medical officer is responsible to his superiors and the heads of his department, but a medical man under a contract practice system—even at 10s. a head—is the *slave* of his actual and potential patients: he cannot call a moment his own; in fact he is sold, body and soul, for a mere pittance, and medical practice under such circumstances is intolerable to any man of spirit or independence. I am firmly persuaded, however, that a practicable scheme of sickness and invalidity insurance is possible without invoking such contract practice methods; and the sooner we evolve such a scheme and agree as to its essential outlines the better for us all and for the success of a State sickness and invalidity insurance in this country.—I am, etc.,

Bowdon, May 23rd. P. R. COOPER.

AUSCULTATORY FRICTION.

SIR,—For the past ten or twelve years, and perhaps longer, I have been teaching the value of auscultatory percussion and friction in all the instances mentioned by Mr. H. H. Brown in his Memorandum in the JOURNAL of May 14th, and I have constantly demonstrated this method of examination of solid organs to the classes on physical diagnosis at the London Polyclinic. The method is certainly little known and still less practised, but to some of us it is not new. I have for many years used this method to demonstrate the line of division between the lobes of the lung, which can easily be mapped out by auscultatory percussion. This, I think, may be new to many who have practised auscultatory percussion and friction on other organs.—I am, etc.,

London, W., May 18th. J. EDWARD SQUIRE.

SIR,—Until I read last week's JOURNAL I was under the impression that this diagnostic method was neither remarkable, nor recently invented, nor less widely known than any other. I now learn that it was "discovered" in 1898 by a contributor to the JOURNAL. I had imagined that I acquired my knowledge of it and other diagnostic aids during my student days from the clinical tutors at Edinburgh University. This much is certain, however, that it was discovered before 1898, for I have a very distinct recollection of this diagnostic method being used at a demonstration of the use of the new phonendoscope one morning at Jullien's clinic at the St. Lazare in the spring of 1896. The phonendoscope was fitted with multiple tubes, so that several persons could hear simultaneously through one instrument the sounds produced, and the various organs were pencilled out by the demonstrator at the direction of us who were listening to the sound of his stroking finger.

I did not gather that the inventors of the phonendoscope laid claim to the discovery of auscultatory friction, but only to the increased accuracy and facility of the method, though such an interpretation might be given to the

following extract from the circular enclosed with the instrument which I bought in 1896:

Determining the outlines of the organs is not done by percussion, but by passing the forefinger with slight pressure over the organ in question, pressing during this manipulation the phonendoscope with the small stick against the organ.

I do not remember that it struck me at the time as a new method, and my impression now is, as I have said, that I heard of it in my student days, but, at any rate, the method was common property before 1898, the date of its "original discovery" by Dr. Pearson.

I enclose the printed circular referred to.—I am, etc.,

Bristol, May 21st. HARRY GREY, M.D.

SIR,—In the JOURNAL of May 21st Dr. Allan C. Pearson claims to be the discoverer of auscultatory friction. If he had looked into the literature he would have found, like Dr. H. H. Brown, that the method had been introduced and practised some years before his paper appeared, as Henschen described auscultatory percussion in 1887, and Bianchi auscultatory friction in 1896. I believe, indeed, that both methods were in use at still earlier dates.

It is, however, of little importance to decide who invented these methods, as both have been found to be utterly fallacious. Moritz[1] and de la Camp[2], among others, have shown by means of orthodiagraphy, which is the only method giving absolutely accurate results, that the outline of the heart obtained by auscultatory friction is not even approximately correct.

I have proved the same thing for both auscultatory percussion and auscultatory friction in the case of the stomach and colon. On many occasions I have marked out the supposed position of the stomach by these methods after a bismuth meal had been given, and have obtained a quite definite outline, which was identical with that obtained at the same time by other observers. On now looking at the stomach with the x rays it was found that in no case did the outline obtained by auscultatory percussion or auscultatory friction show any resemblance to the true shape. Often the "stomach" marked out by these methods barely overlapped the position it really occupied.

Why such definite areas can be marked out by these methods I do not know, although the investigations of Moritz[3] have thrown some light on this subject. But there cannot be the slightest doubt that the methods are quite valueless. It is therefore a matter of congratulation rather than of wonder that they are "not taught in the medical schools" and have "not been described in any of the recent textbooks."—I am, etc.,

London, W., May 23rd ARTHUR F. HERTZ.

A NEW ASPECT OF THE EFFECTS OF BORIC ACID.

SIR,—In his recent letter (p. 1146) Dr. Grünbaum comments on an article of mine on the above subject, and cavils at the use of the words "entirely new aspect."

I was pleased to learn that my observations had been forestalled by Dr. Grünbaum, and more especially so as these had been adversely criticized by a leading metropolitan doyen of bacteriology. I had also discussed the question with other bacteriologists and hygienists, who agreed that if the deductions were correct the subject was of sufficient importance to be followed up, and regarded it as a novel idea.

It is a pity, therefore, that Dr. Grünbaum's opinions should have been published as a general observation in a few lines, which he quotes in their entirety, hidden away in a discussion on food preservatives in general, and with no evidence, experimental or otherwise, in support. Had it been more widely known I think that it would have done much good during the last ten years.

Whilst regretting, therefore, the use of the words "entirely new aspect," I am now of the opinion that Dr. Grünbaum's remarks enhance the value and importance of my small contribution on food preservatives.—I am, etc.,

London, W., May 23rd. JULIUS BERNSTEIN.

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[1] *Muench. med. Woch.*, 1, 1333, 1903.
[2] *Kongr. f. inn. Med.*, 1904.
[3] Loc. cit.

The Services.

SECOND HOME FIELD AMBULANCE, R.A.M.C.

THE annual distribution of prizes to members of the 2nd Home Counties Field Ambulance took place at Canterbury on May 7th. The occasion took the form of a conversazione, the proceedings throughout being most enjoyable. Major A. R. Henchley presided, and was immediately supported by the Mayor of Canterbury, Surgeon-General Gubbins (Director-General of the Army Medical Service), Sir Somers Vine, C.M.G., Captain G. M. Kingsford, Captain Hamilton, Captain Emerson, Dr. Drake, Lieutenants Willan and Dundas, and Rev. J. Le Mare Shallis (chaplain). There was a very large attendance. In a short speech before presentation of the prizes, Major Henchley said they in the R.A.M.C. in Canterbury were in the happy position of being up to establishment in non-commissioned officers as well as men, and very nearly so in regard to officers, and not only that, but they had been so since the completion of the first year of the Territorial Force right up to the present day. That was a happy circumstance, of which he felt the city should be distinctly proud. In Canterbury they were distinctly proud, not only of the numbers, but of the quality of their men. The Territorial Forces were up to a standard of efficiency which the voluntary movement in England had never known before. Surgeon-General Gubbins, who distributed the prizes, alluded to the distinguished military history of the county of Kent. The Territorial scheme was a vast improvement and a great stride in advance of anything that they had previously had. The weak point of the old Volunteer movement was that there was no medical organization, but now all that had been altered, and the medical units were part and parcel of every division in the country. With regard to the men of the St. John Ambulance, the Surgeon-General said that during the time of the war he was instrumental in getting them into touch with the War Office. They estimated that about 200 men would be forthcoming, instead of which during that war there were no less than 1,900 who went out to the front, and, after a little licking into shape, he could not have wished for better men. Sir Somers Vine proposed a cordial vote of thanks to the Chairman, which was seconded by Captain Hamilton. The Mayor of Canterbury, in putting the resolution of thanks, said, as a member of the Kent Territorial Committee, he honestly believed that the success of that particular unit was mainly due to Major Henchley. They in Canterbury were grateful to him for what he had done, because in doing that great work for the city he was forwarding still larger work for the country and the empire. The resolution was unanimously carried, and Major Henchley briefly acknowledged the compliment.

Medico-Legal.

UNDERTAKINGS TO PAY FEES.

AT the Lambeth County Court on May 12th a medical man claimed payment by the London Electricity Supply Corporation of some £96, fees due for attendance on a person injured while carrying out a subcontract with the defendant company. This person, by coming into contact with a live wire, received a wound in the side some 16 in. long, dividing the muscles as well as the skin. The plaintiff, after affording him first-aid treatment when brought to his house, suggested that he should be taken to a hospital. The wounded man refusing, he was taken to his own house, where a nurse was secured and the patient treated by the plaintiff in the belief that the defendant company through its local superintendent had undertaken to pay all charges. The same superintendent had some years previously given the medical man concerned in this case instructions to treat another injured employee of the company, and that bill was paid. Another medical man who had assisted in the case and was present at a conversation between the superintendent and the plaintiff, gave evidence that the superintendent told the plaintiff to do everything possible, and that the company would be responsible for fees. On behalf of the defendant it was denied that the superintendent had any authority to retain a doctor for the company, and the superintendent denied having done so. The case ended in the action being dismissed with costs.

In delivering judgement the county court judge stated that the case was an unfortunate lesson for medical men, as it would make them careful as to what attention they gave to an urgent case. Possibly, he added some explanation of his reasons for ruling in favour of the defendant company despite the well-known readiness with which undertakings to be responsible for payment are given in such circumstances, but if so they are not reported in the *South London Press*, from which our information is derived. The evidence of the injured man himself was apparently not available, because the final outcome of his injury would seem to have been the development of insanity.

CLAIM ON EXECUTORS.

A CORRESPONDENT writes that a few months ago he sent in an account to the executors of a patient whom he had attended during his last illness, and that he had received a letter from a solicitor saying that the deceased's estate was not sufficient

to pay his debts, and that his creditors would not receive more than 5s. in the pound. He wishes to know whether his account for medical attendance would not count as a preference debt.

*** Our correspondent can only claim with the other creditors, and is not legally entitled to any preference.

MIDWIVES ACT.
PAYMENT OF MEDICAL MEN SUMMONED TO ASSIST MIDWIVES.

T. N. K. writes that since the clause in the Midwives Act forbidding unregistered midwives to practise has come into force, certain poorly-paid labourers have been compelled to have recourse to the parish to obtain attendance for their wives in the confinements, and he wishes to know: (1) What is his position, if called upon to attend one of these as district medical officer, when the guardians have declined to allow the relieving officer to grant a medical order for this attendance? (2) To what authority he ought to apply for a fee when called in by a certified midwife to attend a lying-in woman in an abnormal case?

*** (1) If he is aware that an application for an order has been made, it is open to him to see the relieving officer, and to inform him that unless the order is granted he will refuse to attend, and thus to throw the responsibility on that official, who cannot shelter himself behind the directions of his board. (2) The Departmental Committee of the Privy Council recommended legislation, whereby a fee would be guaranteed to a practitioner called in by a certified midwife, and this recommendation is embodied in the Midwives Bill, 1910, the text of which was published in the SUPPLEMENT to the JOURNAL of April 9th, 1910, p. 160; but at the present time no fee can be recovered from the guardians or other local authority unless they have notified their willingness to pay one.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE COURTESY CALL.

FOOZLER ought to call on his senior colleague as soon as possible and show his desire to be friendly.

PROFESSIONAL CHARGES TO MEDICAL MEN.

R. C. M.—There is no ethical rule against charging brother practitioners for professional services. It is a generous custom not to do so, but each case must be considered on its merits, and in the circumstances stated reasonable charges ought not to be objected to by the executors.

ALLEGED MISAPPROPRIATION OF FEES.

HONOUR WITHIN THE PROFESSION states a case which is more suitable for the law courts than for the Ethical Committee of his Branch. We should advise him to refer the matter to the medical defence society of which he is a member. If he has not joined such a society his best course would be to consult a solicitor.

DOCTORS' RELATIVES AND PROFESSIONAL RELATIONS.

T. L. A.—We see nothing unethical in the sister of a medical practitioner being the secretary to a nursing association of which two other doctors are vice-presidents. Whether it is "discreet" may depend upon circumstances, but although the situation may not be free from difficulty it is by no means impossible.

MEDICAL OFFICERS OF HEALTH AND PRIVATE PRACTITIONERS.

ENQUIRER.—We are not prepared to say that a practitioner would be "perfectly justified in trying to have removed from his office" a medical officer of health who "used his position to obtain patients," but we agree that such conduct is not "fair play." The case is eminently suitable to be brought before the local Division of the Association.

THE RELATIONS OF MEDICAL PRACTITIONERS TO DISTRICT NURSES.

ENQUIRER is advised to associate himself with the committee by subscribing to the fund and by showing his willingness to co-operate in its work. He will then be in a position to obtain reasonable reforms. A nurse is not competent to diagnose or treat "influenza, diarrhoea, carbuncle, miscarriage," and the like, and must need medical supervision and control.

Public Health AND POOR LAW MEDICAL SERVICES.

THE SPREAD OF MEASLES BY POST OFFICE OFFICIALS.

THE Medical Officer of Health of the Brixham Urban District, Dr. G. B. Elliott, has recently reported to the Brixham District Council on the action of the Post Office authorities with regard to measles. He narrates the circumstances of a postman whom, his wife being ill with measles, the postmaster was advised to take off duty. It subsequently transpired that the rule of the Post Office is that no employee can be absent from duty on account of his coming from a household infected with measles. Dr. Elliott considers that a postman whose clothing is infected with measles germs is a kind of peripatetic incubator on a wet day, when he is wearing his regulation oilskin cape, and the recipients of letters no doubt receive their quota of germs. He hopes that public opinion may be aroused on the matter, so that the postal authorities will be compelled to alter their regulations and adopt a more common-sense and less dangerous practice.

VENTILATION ASSISTED BY ELECTRICITY.

IT has long been recognized that ventilation may be assisted and inequalities of temperature in a room may be prevented by suitably warming the incoming fresh air. Various devices having this end in view have been more or less successfully adopted. Among the latest is one which has been introduced by the Westminster Electric Supply Corporation. It consists essentially of a small electric radiator placed within a Tobin's tube. In a few moments the incoming air can be raised to a desired standard. This same principle might be adopted in connexion with methods of ventilation other than by means of Tobin's tubes by the insertion of an electric radiator within the main conduit for the supply of fresh air to a building. The system has not been patented, and can be carried out by any electrical engineering firm, and as there are no royalties or fees connected with it the cost should not be great.

DISINFECTION AFTER SCARLET FEVER.

DUBITANS.—It is usual to carry out complete disinfection of the room or rooms which have been occupied by a scarlet fever or diphtheria patient who has been removed to an isolation hospital.

MEDICAL OFFICERS OF HEALTH AND INFECTIOUS DISEASES IN SCHOOLS.

M.O.H. inquires: (1) If during a severe epidemic of scarlet fever it is the duty of a medical officer of health to receive daily reports from the public elementary schools giving the names and addresses of all absentees, to visit and examine the absentees at their homes, and occasionally to examine suspected cases in the schools. (2) If it is competent for a sanitary authority to require a medical officer of health to attend weekly a special sanitary committee meeting during an epidemic.

*** (1) In the latest memorandum issued by the Local Government Board upon public health administration for the prevention of the spread of infectious disease among children attending public elementary schools, Dr. Newsholme and Dr. Newman state that in the control of notifiable diseases action must start with the medical officer of health. Article 18 (2) of the Order of the Local Government Board of March 23rd, 1891, states that it is the duty of the medical officer of health "to inquire into and ascertain by such means as are at his disposal the causes, origin, and distribution of diseases within his district," and with this object in view he will regard each case of notified disease as possibly connected with other cases of the same disease, which, owing to their mildness or the absence of some of the characteristic symptoms, have been overlooked. The investigation of such missed cases is indispensable to effective administration. A portion of this investigation may need to be taken at the patient's home; it is incomplete, unless an equally thorough inquiry has been made into the condition of the children who have been in contact at school with the scholar who has fallen ill. This inquiry should be shared by the medical officer of health and the school medical officer, if these offices are not held by the same official. (2) If the circumstances are sufficiently grave to warrant the holding of weekly meetings of a sanitary committee, it is most desirable that the medical officer of health should be in attendance at such meetings.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Diploma in Ophthalmology.

NOTICE has been given that the examination for the Diploma in Ophthalmogy will be on July 19th, 20th, and 21st, and not as previously advertised.

Appointments.

The following appointments have been made: Mr. Harold Scurfield, M.D., D.P.H., to be an Examiner for the Diploma in Public Health, and Mr. E. Treacher Collins, F.R.C.S., and Mr. John B. Lawford, F.R.C.S., to be Examiners for the Diploma in Ophthalmology.

Changes in Regulations.

The following change in the regulations relating to the examination for the degree of B.M., B.Ch. will come into effect in Michaelmas Term, 1910: Instead of the certificate hitherto required, a certificate will be required signed by the medical officer of a lying-in hospital or the lying-in wards of a general hospital, showing that the candidate has *either* (1) regularly attended the indoor practice of a lying-in hospital or the lying-in wards of a general hospital for a period of three months; and after having received therein practical instruction in the conduct of labour, under the personal supervision of the medical officer, has conducted twenty cases of labour under official medical supervision; *or* (2) given daily attention during one month upon the indoor practice of a lying-in hospital or the lying-in wards of a general hospital, and has therein conducted cases under the personal supervision of a medical officer of the hospital, by whom, having been adjudged competent, he has been authorized to attend, and has attended, not less than twenty cases of labour under official medical supervision. To the medical officer who signs this certificate the candidate must produce evidence that, prior to the course certified, he has acted as surgical dresser for six months, and has acted as clinical medical clerk for a like period, and has attended a course of instruction in midwifery.

UNIVERSITY OF CAMBRIDGE.

THE next examination for medical and surgical degrees will take place on the following dates:

Third M.B.: Part I (Pharmacology and General Pathology), June 15th to June 18th; Part II (Surgery, Medicine, and Midwifery), June 18th to June 25th.

M.C., June 18th to June 21st.

The certificates and fees of candidates must be sent to the Registrar on or before June 10th.

UNIVERSITY OF EDINBURGH.

UNIVERSITY COURT.

Resignation and Appointments.

AT the meeting of the University Court on May 16th, a letter from Dr. T. S. Clouston was read intimating his resignation as a University Lecturer on Mental Diseases as from the end of the current summer session. In accepting the resignation, the Court resolved to record in their minutes their sense of the valuable services rendered by Dr. Clouston to the university. Dr. George M. Robertson was reappointed University Lecturer on Mental Diseases, and Dr. George Mackay on Diseases of the Eye. Mr. David Wallace, M.B., F.R.C.S.E., C.M.G., was appointed a University Lecturer on Clinical Surgery, Dr. James Haig Ferguson was appointed additional Examiner in Gynaecology, and Professor Hugh Marshall was appointed additional examiner in connexion with theses submitted for the degree of D.Sc.

Grants for Research.

Grants recommended by the Senatus from the Earl of Moray Endowment for the promotion of original research were approved.

Recognition of Teachers.

Dr. P. G. Gundry and Dr. D. du T. Malherbe, Transvaal University College, Pretoria, were recognized as extra academical teachers, whose courses of instruction in physics and chemistry respectively, shall qualify for graduation in medicine, and Dr. P. D. Hahn, South African College, Capetown, was recognized as an extra academical teacher, whose courses of instruction in chemistry shall qualify for graduation in science (first B.Sc. examination). Mr. Lewis Beesly, F.R.C.S.E., was recognized as an extra academical teacher in Edinburgh, whose course of instruction in surgery given to women students shall qualify for graduation in medicine under Ordinance No. 18, Sect. iii, 4.

Colonial Services.

The Court approved of arrangements for the instruction of officers of the Colonial Services in the subjects of medical entomology and protozoology.

Medical Preliminary Examinations.

The following are the statistics of the Medical Preliminary Spring Examination: Entered for examination, 127 (including 3 women); English, 42 passed and 57 failed; mathematics, 54 passed and 38 failed; Latin, 47 passed and 52 failed; Greek, 5 passed; French, 45 passed and 35 failed; German, 7 passed and 3 failed; Bengali, 2 passed; Arabic, 2 passed; Sanskrit 4 passed.

Students of Medicine and Science.

The following tables show the number of matriculated students of Medicine and Science in the University of Edinburgh during the last nine years:

Session.	Medicine.	Science.
1900-1	1,364	170
1901-2	1,396	169
1902-3	1,427	206
1903-4	1,487	229
1904-5	1,481	248
1905-6	1,482	290
1906-7	1,493	289
1907-8	1,487	296
1908-9	1,440	300

But in the session 1889-90 there were 2,033 matriculated students of medicine.

UNIVERSITY OF GLASGOW.

AT a meeting of the Senate of Glasgow University on May 19th it was resolved to confer the honorary degree of Doctor of Laws (LL.D.) on Emeritus Professor John Cleland, M.D., F.R.S., Professor of Anatomy in the University from 1877 to 1909. The degree will be conferred with others on Thursday, June 9th, which will be celebrated as Commemoration Day.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following candidates have been approved at the examination indicated:

FIRST FELLOWSHIP.—J. W. Adams, J. N. Armstrong, Margaret M. Basden, C. W. G. Bryan, E. Calvert, N. G. Chavasse, F. J. Cleminson, J. Colgan, E. M. Cowell, H. C. R. Darling, E. D. Davis, A. E. L. Devonald, F. H. Diggle, G. E. Genge-Andrews, J. T. S. Gibson, T. T. Higgins, A. J. Hull, C. E. S. Jackson, J. C. Jefferson, W. A. H. McKerrow, G. S. Miller, A. S. Moorhead, J. Morley, A. C. Morson, K. G. Pandalai, C. H. G. Pochin, B. Quick, J. F. G. Richards, W. Robinson, B. C. Roy, D. W. Smith, R. W. Spence, F. T. Talbot, R. O. Ward, H. C. Wilson, D. Wood.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the Royal College of Surgeons of Edinburgh the addresses given below were unanimously adopted:

Unto the King's Most Excellent Majesty.

The Loyal and Dutiful Address of the President and Fellows of the Royal College of Surgeons of Edinburgh under their Corporate Seal.

May it please Your Majesty,—

We, Your Majesty's loyal and dutiful subjects, the President and Fellows of the Royal College of Surgeons of Edinburgh, in meeting assembled, humbly beg leave to offer to Your Most Gracious Majesty the expression of our sincere and respectful condolence on the lamented death of your Royal father, our dearly beloved Sovereign King Edward the Seventh.

While deeply mourning the great bereavement which has befallen your Royal House and the whole British Empire, we are comforted by the reflection that our late illustrious King so beneficently reigned over his subjects as to elicit the deepest devotion and warmest loyalty of all ranks and classes.

Very specially do we recognize the great debt of gratitude due to King Edward for the powerful assistance and encouragement he ever gave to scientific advancement in our profession, and for the deep interest he ever took in those practical results which have contributed to improve the comfort and health of the nation.

We rejoice that our late lamented King by the zealous discharge of the multifarious duties of his high and exalted station, by his deeply sympathetic nature, and by his constant thought for the welfare of all his subjects, was acclaimed a wise ruler and revered as a gracious Sovereign.

In tendering to Your Majesty our respectful congratulations on your accession to the Throne of these Realms it is our fervent desire and prayer that Your Majesty and your Royal and Gracious Consort may long be spared to reign over a free, happy, loyal, and united people.

Signed and sealed in name and by authority of the Royal College, at Edinburgh, on the seventeenth day of May, Nineteen hundred and ten, by the President and Secretary.

Unto Her Most Excellent Majesty Queen Alexandra, Queen Mother.

The Loyal and Dutiful Address of the President and Fellows of The Royal College of Surgeons of Edinburgh under their Corporate Seal.

May it please Your Majesty,—

We, the President and Fellows of the Royal College of Surgeons of Edinburgh, in meeting assembled, desire most

respectfully to express to Your Gracious Majesty our sincere and heartfelt sympathy on the lamented death of your illustrious and Royal husband.

We recognize with gratitude the large share which Your Majesty bore in aiding his late Majesty in the many good actions which it was ever his pleasure to perform in the interest of and for the benefit of his people.

It is our hope that Your Majesty may long be spared to continue this beneficial work, which occupied so much of his late Majesty's time and thoughts; and it is our earnest prayer that you may be given strength to bear the heavy trial which has befallen the Royal Family and the whole British Empire.

Signed and sealed in name and by authority of the Royal College, at Edinburgh, on the seventeenth day of May, Nineteen hundred and ten, by the President and Secretary.

Election of Fellows.

At a meeting of the College on May 17th, the following gentlemen were elected Fellows: Theodore Robert William Armour, M.B., Ch.B., Liverpool; Alexander Campbell, M.D., C.M., St. John's, Newfoundland; Thomas Fergus, M.B., Ch.B., New Zealand; Henry Grattan Johnston, M.D., L.R.C.S.E., Jamaica; James Lochhead, M.D., Edinburgh; James Masson, M.B., Ch.B., Captain, Indian Medical Service; Hugh Smith Reid, M.D., Edinburgh; James Nisbet Turnbull, M.B., Ch.B., Aden; Jal Sorabji Vakil, L.M. and S., Bombay; James Thomas Wellington Wilkin, M.B., Ch.B., Dunedin, New Zealand; Sidney Rawson Wilson, M.B., Ch.B., Manchester; and Thomas Goodall Nasmyth, M.D., D.Sc., Edinburgh.

Bathgate Prize.

The bronze medal and case of instruments presented to the College by Colonel William Lorimer Bathgate, in memory of his late father, William M'Phune Bathgate, F.R.C.S.E., Lecturer on Materia Medica in the Extra Academical School, was awarded, after the usual competitive written examination in Materia Medica, etc., held for Session 1909-10, to Miss Christian D. Maitland, Edinburgh.

Ivison Macadam Prize.

The annual award of the Ivison Macadam Memorial Prize in Chemistry, consisting of a bronze medal and case of instruments, was, after a competitive written examination in chemistry, held for Session 1909-1910, made to Miss Janet Park Walton, Edinburgh.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

AT an extraordinary meeting of the Royal Faculty of Physicians and Surgeons of Glasgow held on May 13th, Dr. D. N. KNOX, President, made reference to the death of King Edward. He subsequently moved the adoption of the following address. This was seconded by Dr. James A. Adams, visitor, and approved of:

"To the King's Most Excellent Majesty.

"May it please Your Majesty,—"The President and Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow in meeting assembled, beg most respectfully to give expression to their feelings of profound sympathy with Your Majesty, your Royal Consort, and your widowed mother, on the occasion of the death of His late Majesty King Edward, which has suddenly plunged the whole nation into mourning. Short as his reign has been, it has been long enough to develop the peculiarly fitting qualities he possessed for filling the high position he occupied, and to bring to the forefront his claim to be in the highest sense a great Constitutional Monarch. In all classes of his subjects he was interested, including those of them specially devoted to the pursuit of science.

"The Faculty have lately had reason to acknowledge with gratitude the gracious Act of their late Sovereign in ordering last December that this corporate body, founded in 1599, should be known as the Royal Faculty of Physicians and Surgeons of Glasgow.

"To Your Majesty and Your Royal House the loyalty of the Faculty will continue to be devoted. That you may perform your exalted functions in the same lofty spirit and to the same high ends as did your illustrious father, and that you may have many years to rule over a contented, a devoted, and a loving people, the Faculty will ever pray.

"Signed in name, on behalf, and by authority of the Royal Faculty of Physicians and Surgeons of Glasgow, this thirteenth day of May one thousand nine hundred and ten years.

(Signed) "D. N. KNOX,
"President."

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—†F. F. L. How, *J. C. Johnson, *A. Y. Massey, *†A. R. Wade.

MEDICINE.—†J. A. Laughton, *J. G. Reidy, †*F. C. V. Thompson.

FORENSIC MEDICINE.—J. A. Jones, O. Marshall, E. Newhouse, J. G. Reidy, G. W. Simpson.

MIDWIFERY.—E. Newhouse.

* Section I. † Section II.

The Diploma of the Society has been granted to Messrs. F. F. L. How, J. A. Jones, E. Newhouse, G. W. Simpson, and A. R. Wade.

Obituary.

THE LATE DR. CRESSWELL BABER.

MR. C. H. GOLDING-BIRD, Consulting Surgeon to Guy's Hospital, writes: By the death on May 14th of Edward Cresswell Baber, a summary of whose professional career appeared in the JOURNAL of May 21st, the profession loses a very valued member, and his friends and patients, both rich and poor, one who will long be missed. His life was one that showed how much can be accomplished against odds (in his case bad health) by steady and, in the good sense of the word, obstinate perseverance.

After leaving St. George's and taking the degree of M.B.Lond. it was evident that his health would preclude all idea of his following his father, Dr. John Baber, of Kensington, in general practice; and being a keen histologist, he went to Paris to study at the Collège of France under Ranvier and Malassez in 1874; the former was then working with his newly devised method of double staining by picrocarmine, and the latter was evolving his "blood-counting" apparatus. Having had the advantage of school life in Germany, he was as familiar with German as he had become with French, and so, leaving Paris, he visited the various clinics of Vienna, then the great centre of medical attraction. On returning to London in 1875 he worked under Professor Klein, and it was to his influence that Baber owed the direction of his future life; for Klein insisted on his studying one subject only, and not ranging over the whole field of histology, as he had done abroad. The subject suggested was the thyroid in certain lower animals; and this being keenly followed out, many short monographs were the outcome.

Having once taken up this line of study, and doubtless also influenced by his studies in Vienna, and further feeling it was incumbent on him to follow a line of work that would make least demand on a delicate physique, Baber devoted himself henceforward to laryngological matters; and unable to live in London, he commenced a practice in Brighton, which proved in due course both extensive and lucrative. It was in Brighton that he achieved the work of his life, the founding of the Throat and Ear Hospital, and he thereby supplied a distinct want in the seaside metropolis. By dogged perseverance and the employment of inherited business instincts he tactfully overcame all difficulties and oppositions, financial and otherwise, and was spared to see his public work crowned with complete success.

As his practice increased he found it necessary to have rooms in London, which he visited on certain days, and a few years ago decided to make his home in London also, still retaining consulting rooms in Brighton. This step, from the health point of view, was not wise, and in the opinion of his friends can hardly have failed to shorten his life. Every few months Baber had been compelled to seek rest from his work, but his profession was his hobby as well as his life's duty, so the only relaxation he, as a rule, allowed himself was, with his wife (whose practical and untiring devotion to him enabled him to do more than he otherwise could have done), to visit some centre of professional interest on the Continent or to attend some congress.

His thorough up-to-dateness was greatly due to his familiarity with foreign languages, and he had the gift of picking up a language—and that not superficially—after a very short period of study. It was when away in 1908 for six weeks that for amusement he began to study Esperanto, and he became in a short time quite proficient in it, and was delighted to find he now could communicate with certain professional brethren even in Russia. He believed firmly in the value of a common language for at least scientific purposes, and so accustomed did he become to the artificial tongue that he even employed it on his death bed, to the distress of his friends, who could not understand him.

Baber was not only a leading and representative laryngologist, but, what is of more value to a profession, a high minded, honourable, and straightforward gentleman. All who knew him well will agree that he never said knowingly an unkind word of any man, and he never did a mean act. Brusque in his manner, he held some people

rather at bay; but where he made a friendship it was deep and life-lasting.

The numbers who attended his funeral at St. Anselm's, Davies Street, on May 18th, and the wealth of floral tributes sent by rich and poor, and the large sympathetic following at the interment in Hove Cemetery attest the appreciation and affection in which he was held.

Dr. Dundas Grant (President of the Section of Laryngology of the Royal Society of Medicine) writes: Those who as his fellow-specialists came most closely in contact with the late Mr. E. Cresswell Baber are those who miss him most, and among the whole group there is probably not one who will be more missed. The character of the man claimed for him the respect as well as the affectionate regard of all his associates. Behind the somewhat cynical manner of speaking, which the casual observer might misinterpret, there lurked a depth of warm and genuine feeling which at once impressed those who had the privilege of enjoying the slightest intimacy with him. Shrewd and unerring in his judgement of men and action, nothing questionable, tricky or paltry escaped his instant detection. In his apparently cynical way he was able to indicate his recognition of the weak point while treating it with the gentle smile prompted by his infinite indulgence for weaknesses in his fellow-men which he would not have permitted in himself. While the quickest to perceive their shortcomings, he was ever ready to recognize and acknowledge whatever was good even in those whom it was fashionable to decry. His social side was one of great charm. He took delight in giving and acccepting invitations to informal little dinners of intimates, and always contributed largely to the gaiety and interest of the meetings, whether as host or guest. Frequent in his visits to congresses in other countries, he was well known, and in his quiet way he made himself extremely popular among his foreign brethren. Indeed, I have been struck with the frequency with which, in my sojourns abroad, I have received cordial inquiries about "Bahbair." In his domestic life a more than usually sympathetic companionship was his lot. His own uncertain health demanded and received the most cheerful care at the hands of his devoted wife, while she in her turn was the subject of his technical ministrations. These mutual reciprocities seemed to bind them all the more tenderly to each other, and, as their union was not blessed with children, each seemed to find in the other the scope for that affection and solicitude which many find in their offspring. Under these circumstances Mr. Baber's many friends will feel unusual sympathy with his widow in her bereavement, and I am sure they will endorse every one of these few words of appreciation which I have felt impelled to utter regarding him.

With much regret we have to record the death on May 5th of Dr. George William Chaster of Southport, at the comparatively early age of 47. It was due to a severe attack of double pneumonia which had commenced only four days previously when he was attending a relative ill with the same disease. Dr. Chaster was a native of Wigan, and received his professional education at University College, Liverpool, where his career was one of marked distinction. It began by his winning the Lyon-Jones Scholarship in 1882 and ended with his appointment to the Holt Tutorial Fellowship in 1889. Meantime he had been awarded the Torr gold medal, a silver medal for pathology, bronze medals in anatomy and physiology, and a prize in histology, and the diplomas M.R.C.S.Eng., L.R.C.P. He had also worked as Assistant Demonstrator in Anatomy and also in Physiology to the school. After adding to his experience by holding for some time the office of Clinical Assistant at the Royal Infirmary, Dr. Chaster settled down in Southport in the early Nineties, and was appointed to the assistant staff of the Southport Infirmary in 1896. Some seven years later he succeeded to a vacancy on the full staff, but only held it for about four years; he was then—in 1907—not in good health, and, resigning his position on the active staff, he was appointed Consultant Physician instead. Though Dr. Chaster was a man of retiring disposition he will be much missed in the district, where his interest in general science as distinct from medicine had made him well known. He paid some degree of attention to nearly all branches of natural history, though its departments which attracted him most were those which can best be studied by means of the microscope. He had done a good deal of work on the foraminifera of Lancashire, and was Vice-President of the Conchological Society of Great Britain and Ireland. He was also President of the Southport Natural History Society, and had a plan for the foundation of a natural history museum at Southport which may still be carried through.

It is with great regret that we record the sudden death of Dr. F. W. Jordan, of Heaton Chapel, near Stockport. Dr. Jordan received his medical education at Owens College, Manchester, where he had a distinguished career, and in 1873 took the diplomas of L.R.C.P.Lond. and M.R.C.S.Eng. Shortly afterwards he became Assistant House-Surgeon to the Sheffield General Infirmary, and on relinquishing this appointment settled in Heaton Chapel, where he was greatly respected and esteemed. He was exceedingly genial, straightforward, and upright, and was painstaking to a degree. He took the greatest interest in his profession, and kept himself well versed in recent medical literature. To illustrate his aptitude for work, it may be mentioned that while engaged in an extensive practice he succeeded in obtaining the following additional qualifications—namely, in 1889 D.P.H.Victoria, in 1897 M.D.Durham, and in 1904 B.Sc.Victoria. For fifteen years he acted as Medical Officer of Health for the Heaton Norris District, and at the end of that period the members of the Heaton Norris Council showed their appreciation of his services by presenting him with an illuminated address. Outside his professional work Dr. Jordan was keenly interested in meteorology and in freemasonry. He wrote the life of his uncle, Joseph Jordan, late Surgeon to the Manchester Infirmary, the volume being entitled, *Life of Joseph Jordan, Surgeon, and the history of the medical schools of Manchester, including the origin of professional medical education.*

We have with regret to announce the death, in particularly sad circumstances, of Major Kenneth Cameron, R.A.M.C. While cycling in the neighbourhood of Aldershot he fell, and sustained what was considered quite a slight wound in his arm. Unfortunately symptoms of tetanus set in, from which he died on May 9th. Major Cameron was a native of Skye, having been born there forty-one years ago. He was educated at the College, Inverness; from there he went to Edinburgh University, graduating M.B. and C.M. in 1891. He entered the Army Medical Service as a Surgeon-Lieutenant January 29th, 1894, becoming Surgeon-Captain January 29th, 1897, and Major October 29th, 1905. He served with the Tirah Expeditionary Force during the campaign on the North-West Frontier of India in 1897–8, for which he received a medal with two clasps. He was also in the South African war in 1899–1902, being present in operations in Natal, including actions at Rietfontein and Lombard's Kop and the defence of Ladysmith; he afterwards took part in operations in Northern Natal, and subsequently in the Transvaal; he was mentioned in dispatches, and received the Queen's medal with four clasps and the King's medal with two clasps. He was recently on the medical staff of Lord Kitchener in India. On returning to this country he was appointed Operating Surgeon at the Cambridge Hospital, Aldershot. Major Cameron leaves a widow and son to mourn his loss, to whom much sympathy is extended. The remains were taken from Aldershot, and were interred in Tomnahunich Cemetery, Inverness, on May 13th, with military honours.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Heinrich Curschmann, Professor of Special Pathology and Therapeutics in the University of Leipzig, aged 64; Dr. Max Hirschberg, a well-known surgeon and Medical Director of the Jewish Hospital at Frankfort-on-the-Main, aged 68; Dr. Troland, Professor of Anatomy in the Medical Faculty of Algiers; and Dr. Volborth, since 1907 one of the Vice-Presidents of the Berlin Medical Society, and a prominent member of the profession in that city, aged 68.

Medical News.

THE Royal Dental Hospital, Leicester Square, has received a legacy of £1,000 under the will of the late Mrs. Elizabeth Cooper.

OWING to the lamented death of His Majesty King Edward VII, the Naval Medical Dinner will not take place this year.

THE annual general meeting of the Society for Training Teachers of the Deaf and for the Diffusion of the German (Pure Oral) System, which was to have been held on May 25th, but was postponed on account of King Edward's death, will be held at 20, Devonshire Place, W., on June 23rd, at 3.30 p.m.

THE Royal Commission on Mines appointed at the instance of the Home Office to inquire into the health and safety of persons employed in metalliferous mines and quarries has been reconstituted, with Sir Henry Cunynghame, K.C.B., as chairman; Dr. J. S. Haldane, F.R.S., of Oxford, is a member.

THE Hon. J. M. Atkinson, M.B., D.P.H.Cantab., Principal Civil Medical Officer, Hong Kong; Dr. Thomas Borthwick, Adelaide; Dr. C. A. Hodgetts, secretary Provincial Board of Health of Ontario, Toronto; Dr. W. P. Norris, Melbourne; Dr. C. E. Shelly, Hertford, and Dr. Harold R. D. Spitta, London, have been elected fellows of the Royal Sanitary Institute.

A DINNER for representatives and members of the Council attending the Annual Representative Meeting of the British Medical Association in London will be held at the Waldorf Hotel, Aldwych, Strand, W.C., on Friday, July 22nd, at 7.30 p.m. The price of tickets, exclusive of wine, is 5s. Further particulars will be supplied at a later date.

THE Royal Sanitary Institute has presented an address of condolence to King George V on the death of King Edward. The address contains the following passage: "His late Majesty won for his Throne and Person the affectionate loyalty of his people, by the interest he ever showed in their physical and social welfare, by the generous thought he gave to measures for the better housing of the poor, and by his gracious initiative in promoting the national effort for the extermination of tuberculosis in this country. We desire especially to record our deep sense of gratitude for the special mark of his Royal favour in graciously consenting to act as Patron of this Institute."

IN the form of a pictorial description of their Woolwich and Dalston Works, Messrs. Siemens Brothers and Company, Limited, of Caxton House, Westminster, have issued a handsome pamphlet (No. 500), affording to the lay mind an interesting glimpse of the processes involved in this firm's electrical engineering business, including the manufacture of submarine cables on the one hand and Tantalum lamps on the other. It is really an album of some seventy pictures, the accompanying letterpress being just sufficient to render them intelligible. Cable manufacture, for example, is fully illustrated in all its stages from the first receipt of the copper wire to the final coiling on the drums. The user of electricity for medical or experimental purposes will be specially interested in the description of the calibrating and meter-testing rooms and laboratories. The pamphlet, which is innocent of price-list and aggressive advertisement, serves to show how fascinating a thing the study of a special branch of engineering may be made, and makes one wish that the camera were oftener systematically employed to turn a modern industry inside out for our benefit.

THE Illuminating Engineering Society was formed in 1909 in order to bring together engineers, architects, members of the medical profession, and others interested in illumination, in order that an impartial and international platform might be provided for the discussion of problems of this kind. The report presented at the annual general meeting held on May 23rd, Professor S. P. Thompson, D.Sc., F.R.S., in the chair, stated that the work of the last session had fully demonstrated the usefulness of this society. During the session the membership steadily increased. It includes gas and electrical engineers, representatives of systems of lighting, using oil, petrol-air, and acetylene; professors in technical colleges, medical men, architects and surveyors, and manufacturers of lamps, shades, and reflectors. The society proposes to send delegates to the International Congress on Diseases of Occupation to be held in Brussels this year. At this Congress the question of the hygienic conditions of factories and schools, and the effect of light on the health of employees, will be studied in connexion with the engineering aspects of illumination.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

CAMBRIA will be greatly obliged if any one who has used gonococcal vaccine for cases of fibrositis will inform him whether it is usual for the symptoms, pain, etc., to be aggravated for the first few days.

J. L. M. asks whether hypnotism would benefit a patient who complains, and has complained for two or three years, that she hears voices; they are getting stronger; she has now got to the stage of talking about consulting a solicitor. If not hypnotism, would any other treatment be likely to benefit? There is no history of insanity.

URTICARIA.

NEW ZEALAND M.D. wants hints on the treatment of urticaria. Careful dieting and the usual drugs have failed. No organic or functional disease is discoverable. Rest in bed with ordinary diet has given most satisfaction. The patient, a female, is aged 32.

TREATMENT OF CHRONIC SINUS.

DR. W. J. DAVIES (Aberayron) asks for suggestions on the treatment of a patient suffering from a chronic sinus over the right great trochanter due to an injury received four years ago. It healed up after long treatment, but in November, 1909, the scar broke down, due to another fall. There is no necrosis or exposed bone, but a discharge of a small amount of "clean" pus." Various remedies have been tried—namely, cleaning with carbolic lotion (1 in 20 and 1 in 40), solution of hydrarg. perchlor., solution of silver nitrate, scraping the sinus, plugging with gauzes. Hydrogen peroxide 10 vols. is now being used, but there does not appear to be very great improvement.

HERPES ZOSTER FOLLOWING INJURY.

DR. MINA L. DOBBIE (London, N.W.) writes: I should like to ask in the columns of the JOURNAL whether any of its readers have seen herpes zoster following injury. I have come across two cases which I think may be considered due to injury. The first was that of a girl of 13 with severe scoliosis. During a course of treatment an exercise was given in which her whole weight rested on the angles of the ribs over a saddle placed on a horizontal boom. The treatment was given five times a week. After less than a fortnight of this exercise the treatment was interrupted by an attack of herpes zoster in the lower dorsal region of the side pressed upon. The second case was that of a woman of 44. She was a house-parlour-maid, and while standing on a three-legged stool stretching upwards and to the left in cleaning a shelf, the stool overbalanced to the left. She clutched the shelf to save herself from falling, and strained her left side. The pain increased steadily for four days, when I saw her. There was then superficial tenderness over the left costal margin, and over an area on the back around the angles of the lower ribs. There was also some tenderness on pressure of the muscles below the left margin of the thorax, but this was less marked than the superficial tenderness. Nine days after the accident a typical herpes rash appeared over the anterior, lateral, and posterior cutaneous branches of the ninth dorsal nerve. It is generally stated that the rash in herpes appears after the pain has lasted four or five days. In this case the pain had been present for nine days. I should be interested to hear of any similar cases.

CASE FOR DIAGNOSIS.

S. BOLTON writes: I have a patient, a young man of 30 years, who came to me in 1908 complaining that in 1902 a mist came before his eyes. Two uncles on his mother's side were similarly afflicted. Sometimes he can see better than at others. Right side of face hangs a little lower than left, right pupil and orbit bigger than left; right knee jerk more marked than left; discs white and glistening; vessels prominent on disc only; rest of fundus a dull red; always a cold in head; nose bleeds on washing in cold water. He brought prescriptions showing he had taken strychnine, mercury, and iodides for long periods at various hospitals. I ordered potassium iodide to be introduced through the skin by means of continuous current. Now vessels are more plainly visible, disc is not so much dull red blotch, but sight is not much improved. I think some other promising treatment was suggested in the JOURNAL about end of 1908, but I cannot find a reference. Can you refer me to it, or ask for suggestions as to treatment in JOURNAL?

*** We referred this inquiry to a leading authority on eye diseases, who writes: I think there is no doubt that the patient is suffering from hereditary optic atrophy or Leber's disease. As regards treatment I never heard of anything which was of the slightest avail, though most people would give strychnine or iodide as being the only thing which might possibly have some effect. Some have used arsenic and

bromide. A full paper on the whole subject by the late W. Ilbert Hancock appeared in the *Royal London Ophthalmic Hospital Reports*, vol. xvii, Part II, page 167, and was published in January, 1908. Perhaps it was an abstract of this paper to which the writer refers.

ANSWERS.

TINNITUS AURIUM.

GLASWEGIAN writes: I would advise "Verdi" (BRITISH MEDICAL JOURNAL, May 14th, p. 1212) to instil into the ear fifteen drops of fluid myelocene every night for two or three weeks. If the patient gets deafer, wash out the ear with hot water. After instilling the drops plug the meatus with cotton-wool. Myelocene is made by Macfarlane of Edinburgh.

NIL writes, in reply to "Verdi": I am much interested in his case on account of the resemblance it bears to a patient under my care, in whom I can find nothing abnormal to account for the symptoms. Bromides, strychnine, amyl nitrate were found to be useless, whereas quinine gr. vj afforded relief. Although quinine can be habitually taken for a long period in malarial countries without causing ill-effects, I fear that the constant use of it in tinnitus will ultimately aggravate the noises (quininism would set in). My patient resides in a somewhat damp seaside resort on the South Coast, and the tinnitus is said to be always worse on damp and foggy days, whereas instant relief is obtained on change to London or a drier climate. If "Verdi's" patient lives in a damp climate, a change might be recommended. In my case marked improvement follows catheterization and the daily use of a 1 per cent. alkaline spray (sod. bic. c. borax).

PRACTICE IN FRENCH TERRITORY.

IN answer to various correspondents we now give the outcome of the revision to which the regulations respecting French degrees and medical practice in France and its colonies have recently been subjected.

There are two diplomas in France, both of which confer the title of Doctor of Medicine, but only one of them carries with it the right to practise medicine either in France or any of its colonial possessions. This is known as the Diplôme d'État, and it can only be obtained —even by candidates already possessed of diplomas and degrees entitling them to practise in other countries—by those who complete step by step the curriculum ordinarily imposed on French students of medicine. Such students first obtain the degree of Bachelor of Arts, then complete certain courses in physics and chemistry, and finally commence their four years' work as undergraduates of the Medical Faculty of the University of Paris, or other French university possessing such a faculty. In the course of these four years they undergo five examinations, most of them being divided into two parts and including both theoretical and practical work. Finally comes a thesis on any subject chosen by the candidate; he reads it in public, and is subjected to cross-examination as to its contents. The fees payable from first to last amount in English money to about £74.

The other diploma is known as the Diplôme Universitaire, and, being a purely academic distinction conferring no right on the holder beyond that of calling himself M.D., certain concessions in respect of it are commonly made to foreign students. If these are already possessed of diplomas entitling them to practise medicine and surgery in their own country they may be released from the necessity of obtaining a degree in arts from a French university and from following the courses mentioned in physics and chemistry. They are also usually allowed to pass all the examinations one after the other without the regulation intervals, and from some of these examinations they are frequently exempted altogether. But in all cases the precise concessions made depend on the character of the curriculum which they have undergone in their own country, the proofs thereof which they possess in the shape of degrees or diplomas, and on their experience of the practice of medicine as represented by their status in their own country.

For these reasons it is impossible for any one in this country to say precisely what examinations any given individual desirous of obtaining the M.D. of Paris may have to undergo, or what length of time obtaining that degree will demand. The only thing certain is that the standards are high, and that the candidate must be a sufficiently good linguist and rapid thinker and speaker to deliver verbally the same sort of dissertations on given topics as those which in Great Britain are commonly delivered in a written form in answer to printed questions. In France examinations are almost entirely oral, though the candidate is usually told a few minutes in advance what specific points he will have to discuss. When concessions are sought, the first step is to address an application to the Ministre de l'Instruction Publique at Paris. It must set forth the grounds thereof, and be accompanied in all cases by the candidate's diplomas, and by certificates from school showing what education he has undergone in respect both of general and professional education, by a birth certificate, and by documents establishing his identity as the right holder of the diplomas and other certificates handed in. There must also be sent French translations of all these documents duly legalized—that is to say, certified as correct by a French consul. The concessions, whatever they may be, never affect the fees which the candidate has to pay, these being the same as for the State diplomas—namely, about £74.

LONDON SUBURBS AND RHEUMATIC PATIENTS.

ARGILLUS writes to advise "Rheumatic" to put his patient upon one of the clay hills round London—Highgate, Hampstead, or Harrow in the North; Richmond Hill, Sydenham Hill, or Shooter's Hill in the South. These hills, like a table basin turned upside down, drain themselves. The soil in the valley is mostly gravel, the soil always found next or near a watercourse and frequently waterlogged.

THE SIAMESE LINK.

M. P. D.—The "Siamese link" recommended in some books as an aid in reducing dislocations of thumb and phalanges is nothing more than the old-fashioned toy, also known as the "Indian puzzle." It consists of a tubular plait of reed or straw; if the two index fingers be inserted into the open ends they cannot be withdrawn by traction, for the more the pull the tighter the embrace. As a means of traction in reducing dislocations of the phalanges it has long been replaced, first by specially devised forceps with webbing grips, and then by the adoption of manipulations based upon the known anatomical obstructions to reductions.

TREATMENT OF RED NOSE.

NIL writes in reply to "Rusticus": I have had most excellent results in prescribing barley water to be drunk at meals and no alcohol in cases of red noses and flushing. The addition of a little lemon juice makes the barley water more palatable.

SPHYGMOMANOMETER.

BLOOD PRESSURE.—Dr. Leonard Hill's pocket sphygmometer, which cost 10s., or the same physiologist's new form of mercurial sphygmometer, which, with armlet and pump, costs about 30s., would, we think, suit our correspondent's purpose. The instruments are made by Hicks, 8, Hatton Garden, E.C.

LETTERS, NOTES, ETC.

"GLYCOSURIA AND THERAPEUTIC IMMUNIZATION."

IN a paper by Dr. Courtenay MacWatters, entitled "Some Points relating to Therapeutic Immunization," the patient in the first glycosuric case referred to (p. 1163, line 6 from top of right-hand column) was having, not a "restricted" diet, as printed, but an absolutely "*un*restricted" diet.

MEDICAL PARLIAMENTARY ROLL.

DR. S. D. CLIPPINGDALE writes that the following addition should be made to the Medical Parliamentary Roll published in the JOURNAL of January 8th, 1910: Lake, Thomas, M.D.Cantab. (Port of Hastings, 1572-1586). In the last year of his membership allegations were made against him, and he appealed to Lord Chancellor Burghley to protect him from his detractors (vide Munk's Roll of the Royal College of Physicians).

THE DRUG HABIT: TOBACCO.

DR. R. MACD. LADELL (Holbeck, Leeds) writes: In your issue of May 7th, p. 1152, Dr. J. St. George Whitty advises hypnotic suggestion as a cure for the cigarette habit. With this I am in hearty accord, as I have myself proved its value. I cannot agree, however, with his final remarks that in order to effect a cure the hypnosis must be pushed to the extent of unconsciousness, followed by amnesia, on awakening. Only a comparatively small percentage of cases are hypnotizable to such an extent, and if his advice is followed many cases will be given up as hopeless which are in reality perfectly suitable to the treatment. Most authorities on the subject state that therapeutic suggestion can be successfully carried out when only a slight degree of hypnosis is present, and this is in accordance with my own experience. The hypnosis should be pushed as far as possible in each case, but failure to obtain sleep must not be taken to contraindicate treatment.

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